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SECTION II - PLAN OF TIMBER OPERATIONS

NOTES: (1) Specific LTO **operational information** should be provided **in Section II. (2)** If a provision of this THP is proposed that is different than the standard rule, the **explanation and justification** should normally be included **in Section III. (3) Mapping requirements** are identified **under 1034(x)**. Additional maps may be used to provide the information required, to show specific details, or to improve map clarity.

SILVICULTURE

14. a. Check the Silvicultural methods or treatments allowed by the rules that are to be applied under this THP. Specify the option chosen to demonstrate Maximum Sustained Production (MSP) according to 913.11 (933.11, 953.11). If more than one method or treatment will be used show boundaries on map and list approximate acreage for each.

[☐] Clearcutting	ac.	[☐] Shelterwood Prep. Step	ac.	[☐] Seed Tree Seed Step	ac.
		[☐] Shelterwood Seed Step	ac.	[☐] Seed Tree Removal Step	ac.
		[☐] Shelterwood Removal Step	ac.		
[☐] Selection	ac.	[☐] Group Selection	ac.	[☐] Transition	ac.
[x] Commercial Thinning	440 ac.	[x] Sanitation Salvage	72 ac.	[☐] Special Treatment Area	ac.
[☐] Rehabilitation	ac.	[☐] Fuelbreak	ac.	[☐] Variable Retention	ac.
[X] Aspen Restoration	14 ac.	[☐] Alternative Prescription	ac.	[☐] Road Right of Way	ac.
[ ] Conversion	ac.	[x] No Harvest Area	50 ac.		

Total acreage: 576 ac. Explain if total is different from that in 8. **MSP option:** (a) [☐] (b) [☐] (c) [x]

The 576 acre THP area contains 526 acres of Site Class III timberland to be harvested, and 50 acres of "No Harvest Area" where existing ski trails and landings will be used during timber operations.

b. If Selection, Group Selection, Commercial Thinning, Sanitation Salvage or Alternative methods are selected the post harvest stocking levels (differentiated by site if applicable) must be stated. Note mapping requirements of 1034 (x) (12).

COMMERICAL THINNING

As per 14 CCR 933.3(a)(1), Commercial Thinning, the level of residual stocking shall be consistent with maximum sustained production of high quality timber products as specified below:

***14 CCR 933.3(a)(1)(A)(3):* Where the preharvest dominant and codominant crown canopy is occupied primarily by trees greater than 14" DBH on Site III lands, at least 75 sq.ft per acre basal area shall be left, and on Site III lands where greater than 50% of the basal area is pine, at least 75 sq.ft per acre of basal area shall be left.**

***14 CCR 933.3(a)(1)(B):* Where the preharvest dominant and codominant crown canopy Is occupied primarily by trees less than 14 inches DBH, a minimum of 100 trees per acre over 4 inches DBH shall be retained for Site II and Site III lands.**

A sample area shall be marked prior to preharvest inspection for evaluation. The sample area shall include at least 10% of the harvest area up to a maximum of 20 acres per stand type which is representative of the range of conditions present in the area.

Within six months following the completion of timber operations as described in this plan, a report of stocking shall be filed as per PRC 4587.

SANITATION/SALVAGE

As per 14 CCR 933.3(b), sanitation is the removal of insect attacked or diseased trees in order to maintain or improve forest health. Salvage is the removal of only those trees which are dead, dying, or deteriorating, because of damage from fire, wind , insects, disease, flood, or other injurious agent. Sanitation and salvage may be combined into a single operation.

The following requirements apply to the use of the sanitation-salvage treatment:

(1) Immediately upon the conclusion of timber operations, the following stocking standards shall be met:
As per 14 CCR 932.7(b), an area on which timber operations have occurred shall be classified as acceptable stocked if either of the standards in (1) or (2) below are met within 5 years after the completion of timber operations:

(A) An Area contains an average point count of 300 per acre on Site I, II and II lands, computed as follows:

(1) Each countable tree 4 inches DBH and less is 1 point.
(2) Each countable tree over 4 inches DBH and not more than 12 inches DBH counts as 3 points.
(3) Each countable tree over 12 inches DBH counts 6 points.

(B)The average residual basal area measured in stems 1 inch or larger in diameter, is at least 50 square feet per acre on Site Class II timberlands and lower.

(2) As per 14 CCR 933.3(b)(3), trees to be harvested or retained shall be marked by or under the supervision of the RPF prior to felling operations. A sample area shall be marked prior to preharvest inspection for evaluation. The boundaries of openings greater than 0.25 acre may be designated in lieu of marking individual trees within the group. The sample area shall include at least 10% of the harvest area up to a maximum of 20 acres per stand type, whichever is less, which is representative of the range of conditions present in the area.

MEADOW AND WET AREA RESTORATION

As per 14 CCR 933.4(e), 14 acres of wet area/wet meadow will be treated utilizing the "Aspen, Meadow and Wet Area Restoration" method. All conifer trees within this area will be removed except those that are designated to be retained for wildlife and aesthetic values. Tree to be removed that are 12" DBH and greater will be marked prior to timber operations commencing within this silvicultural unit. Trees less than 12" DBH shall be removed unless identified for retention with fluorescent pink flagging. This special treatment area will not be held to the stocking standards of Site III timberland. Further operational guidelines concerning implementation of this prescription can be found in THP Item #38.

Both the California Department of Fish and Wildlife and the Lahontan Regional Water Quality Control Board were consulted regarding the proposed Wet Meadow and Wet Area Restoration prior to THP Submittal, in accordance with 14 CCR 933.4(e)(6), for projects less than 20 acres in size. The results of this preconsultation have been included in Section V.

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c. [☐]Yes [x] No Will evenage regeneration step units be larger than those specified in the rules (20 acres tractor, 30 acres cable)? If yes, substantial evidence that the THP contains measures to accomplish any of subsections (A) – (E) of 913.1 (933.1, 953.1)(a)(2) should be provided in Section III of the THP. Operational instructions to the LTO, necessary to meet (A) - (E), should be provided below if not found elsewhere in the THP. These units should be designated on a map and listed by size.

d. Trees to be harvested or retained must be marked by or marked under the supervision of the RPF. Specify how the trees will be marked and whether harvested or retained.
For all silvicultural units, all trees >12" DBH designated for harvest shall be marked by the RPF or RPF Designee with blue paint. Marking means a painted horizontal band or other distinguishing designation which is visible from two sides of a tree and a stump designation which is visible after felling operations.

[X]Yes [☐] No Is a waiver of required marking by the RPF, requested? If yes, how will LTO determine which trees will be harvested or retained? If yes, and more than one silvicultural method (or Group Selection) is to be used, how will the LTO determine boundaries of different methods or groups?

A waiver of marking is requested for trees less than 12" DBH within all silvicultural units. A sample mark for trees less than 12" DBH will be provided as per 14 CCR 933.3(a)(3) and 933.3(b)(3). Outside of the sample mark, trees less than 12" DBH to be harvested or retained will not be marked. Trees to be harvested will be determined by the LTO as based on the sample mark and the following guidelines:

Commercial Thinning & Sanitation/Salvage:
1) Thinning from below will be utilized within the commercial thinning and sanitation/salvage areas to reduce stand density and remove insect/disease affected trees, thereby enhancing tree growth and improving forest health within the residual stands.
2) Suppressed and intermediate trees will be targeted for removal.
3) Harvest shall provide for retention of healthy and vigorous codominant and dominant trees with full crowns, free of insect and disease, and of the best phenotypes available in the stand.
4) Within the commercial thinning units, harvest shall provide for an increase in average stand diameter.

Wet Meadow/Wet Area Restoration:
1) All trees less than 12" DBH will be harvested unless flagged in florescent pink flagging by the RPF or RPF designee prior to timber operations in said unit.

The RPF will be present sufficiently enough during active operations to provide direction to the LTO regarding tree selection in the unmarked portions of the stand.

e. Forest products to be harvested: **Sawlogs, biomass (chips), firewood.**

f. [☐]Yes [x] No Are group B species proposed for management?
[☐]Yes [x] No Are group B or non-indigenous A species to be used to meet stocking standards?
[☐]Yes [x] No Will group B species need to be reduced to maintain relative site occupancy of A species?

If any answer is yes, list the species, describe treatment, and provide the LTO with necessary felling and slash treatment guidance. Explain who is responsible and what additional follow-up measures of manual treatment or herbicide treatment are to be expected to maintain relative site occupancy of A species. Explain when a licensed Pest Control Advisor shall be involved in this process.

g. Other instructions to LTO concerning felling operations.
Felling will be conducted as per 14 CCR 934.1, Felling Practices. Timber will be felled away from watercourses, cultural resource protection zones, residual timber, regeneration, and improvements to the property.

h. [☐]Yes [x] No Will artificial regeneration be required to meet stocking standards?

i. [☐]Yes [x] No Will site preparation be used within the logging area? If yes, provide the information required. 915.4[935.4, 955.4].

j. If the rehabilitation or variable retention method is chosen, provide a regeneration plan. 913.4[933.4, 953.4](b) or (d), respectively. **Not Applicable.**

PESTS

15.a. [☐]Yes [x] No Is this THP within an area that the Board of Forestry and Fire Protection has declared a Zone of Infestation or Infection, pursuant to PRC §§ 4712 - 4718? If yes, identify feasible measures being taken to mitigate adverse infestation or infection impacts from the timber operation. 917.9 (937.9, 957.9)(a).

b. [☐]Yes [x] No If outside a declared zone, are there any insect, disease or pest problems of significance in the THP area? If yes, describe the proposed measures to improve the health, vigor, and productivity of the stand(s).

HARVESTING PRACTICES AND EROSION CONTROL

16. Indicate type of yarding system and equipment to be used:

TRACTOR, SKIDDER, FORWARDER (Ground Based)*		CABLE		ANIMAL, BALOON, HELICOPTER, OTHER (Special)	
a. [x]	Tractor, including end/long lining	**d.** [☐]	Cable, ground lead	**g.** [☐]	Animal
b. [x]	Rubber tired skidder, Forwarder	**e.** [☐]	Cable, high lead	**h.** [☐]	Helicopter
c. [x]	Feller buncher	**f.** [☐]	Cable, skyline	**i.** [☐]	Other
j. [☐]	Shovel yarding				

* All tractor operations restrictions apply to ground based equipment.

17. Indicate Erosion Hazard Ratings present on THP.

[☐] Low [x] Moderate [☐] High [☐] Extreme

If the information above does not match the EHR worksheets, clarify why, below. If more than one rating is checked, areas must be delineated on map down to 20 acres in size (10 acres for high and Extreme EHRs in the Coast District).

The EHR has been calculated as per Technical Rule Addendum #1, 14 CCR 932.5. EHR worksheets have been provided in Section V. The THP soil type map and further discussion of this item is available in THP Section III.

18. **Soil Stabilization**: Describe, as required, soil stabilization measures or additional erosion control measures to be implemented (including the location of application).

943.5 Erosion Control for Logging Roads and Landings

The following erosion control standards shall apply to logging roads and landings:

(a) All logging road and landing surfaces shall be adequately drained through the use of logging road and landing surface shaping in combination with the installation of drainage structures or facilities and shall be hydrologically disconnected from watercourses and lakes to the extent feasible.

(b) Drainage facilities and structures shall be installed along all logging roads and all landings that are used for timber operations in sufficient number to minimize soil erosion and sediment transport and to prevent significant sediment discharge.

(c) Ditch drains, associated necessary protective structures, and other features associated with the ditch drain shall

1) **Be adequately sized to convey runoff.**
2) **Minimize erosion of logging roads and landing surfaces.**
3) **Avoid discharge onto unprotected fill.**
4) **Discharge to erosion resistant material.**
5) **Minimize potential adverse impacts to slope stability.**

(d)Waterbreaks and rolling dips installed across logging roads and landings shall be of sufficient size and number and be located to avoid collecting and discharging concentrated runoff onto fills, erodible soils, unstable areas, and connected headwall swales.

(e)Where logging roads or landings do not have permanent and adequate drainage, and where waterbreaks are to be used to control surface runoff, the waterbreaks shall be cut diagonally a minimum of six inches into the firm roadbed and shall have a continuous firm embankment of at least six inches in height immediately adjacent to the lower edge of the waterbreak cut. On logging roads that have firmly compacted surfaces, waterbreaks may be installed by hand methods and need not provide the additional six inch embankment provided the waterbreak ditch is constructed so that it is at least six inches deep and six inches wide on the bottom and provided there is ample evidence based on slope, material, amount of rainfall, and period of use that the waterbreaks so constructed will be effective in diverting water flow from the logging road surface without the embankment.

(f) Distances between waterbreaks shall not exceed the following standards and consider erosion hazard rating and road gradient:

Erosion Hazard Rating	US Equivalent Measure – Road or Skid Trail Gradient			
	<10%	11-25%	26-50%	>50%
Moderate	200	150	100	75

(g) Where outsloping and rolling dips are used to control surface runoff, the dip in the logging road grade shall be sufficient to capture runoff from the logging road surface. The steepness of cross-slope gradient in conjunction with the logging road or landing gradient and the estimated soil erosion hazard rating shall be used to determine the rolling dip spacing in order to minimize soil erosion and sediment transport and to prevent significant sediment discharge.

(h) Drainage facilities and structures shall discharge into vegetation, woody debris, or rock wherever possible. Where erosion-resistant material is not present, slash rocks, or ther energy dissipating material shall be installed below the drainage facility or drainage structure outlet as necessary to minimize soil erosion and sediment transport and to prevent significant sediment discharge.

(i) Where logging road and landing surfaces, road approaches, inside ditches, and drainage structures cannot be hydrologically disconnected, and where there is existing or the potential for significant sediment discharge, necessary and feasible treatments to prevent the discharge shall be described in the Plan.

(j) All logging roads and landings used for timber operations shall have adequate drainage upon completion of use for the year or by October 15th, whichever is earlier. An exception is that drainage facilities and drainage structures do not need to be constructed on logging roads and landings in use during the extended wet weather period provided that ll such drainage facilities and drainage structures are installed prior to the start of rain that generates overland flow.

(k) Where logging road or landing construction or reconstruction takes place during the extended wet weather period, drainage facilities and drainage structures shall be installed concurrent with construction or reconstruction operations.

(l) Bare soil on logging road or landing cuts, fills, transported spoils, or sidecast that is created or exposed by timber operations shall be stabilized to the extent necessary to minimize soil erosion and sediment

transport and to prevent significant sediment discharge. Sites to be stabilized include, but are not limited to:

1) Sidecast or fill exceeding 20 feet in slope distance from the outside edge of a logging road or a landing that has access to a watercourse or lake.

2)Cut and fills associated with approaches to logging road watercourse crossings of Class I or Class II waters or Class III waters where an ELZ, EEZ, or WLPZ is required.

3) Bare areas exceeding 800 continuous square feet within a WLPZ.

(m) Soil stabilization measures shall be described in the plan pursuant to 14 CCR 943.5(l), and may include, but are not limited to, removal, armoring, with rip rap, replanting, mulching, seeding, installing commercial erosion control devices to manufacturer's specifications, or chemical stabilizers.

(n) Where the natural ability of ground cover within an WLPZ is inadequate to protect the beneficial uses of water by minimizing soil erosion or by filtering sediments, the Plan shall specific protection measures to retain and improve the natural ability of the ground cover to filter sediment and minimize soil erosion.

(o) Soil stabilization treatments shall be in place upon completion of operations for the year of use prior to the extended wet weather period, whichever comes first. An exception is that bare areas created during the extended wet weather period shall be treated prior to the start of rain that generates overland flow, or within 10 days of the creation of the bare area(s), whichever is sooner. Definition of "Extended Wet Weather Period": The time period from October 15th to May 1st.

(p) Overhanging or unstable concentrations of slash, woody debris, or soil along the downslope edge or face of landings shall be removed or stabilized when it is located on slopes greater than 65%, within 100 feet of the boundary of a WLPZ on slopes greater than 50% that drain toward a zoned watercourse or lake, or when it may result in significant sediment discharge. Removed materials shall not be placed at disposal sites that could result in a significant sediment discharge.

ALL WATERSHEDS Logging roads and Landings	**DESCRIPTION OF TREATMENTS, PROTECTION MEASURES, and TIMING or not applicable**
923.5[943.5, 963.5](i)—treatments to prevent significant discharge where features cannot be hydrologically disconnected.	Not applicable. Application of the CA Forest Practice Rules as described in the THP will hydrologically disconnect appurtenant roads from watercourses as per 14 CCR 943.5.
923.5[943.5, 963.5](l) & (m)—treatments for sidecast or fill; cuts and fills associated w/ approaches to watercourse crossings; bare areas w/in WLPZ.	**1. Areas within a WLPZ where bare mineral soil has been exposed exceeding 800 ft² shall be treated for the reduction of soil loss. Further, mineral soil that has been exposed by timber operations on approaches to watercourse crossings of Class I or II waters, or Class III waters within an ELZ shall be stabilized. Soil stabilization within the WLPZ and/or ELZ shall be done to prevent the discharge of soil in amounts that would be deleterious to the quality and beneficial uses of water. Soil stabilization measures shall include the following:** **a. seeding, mulching, or spreading of logging slash.** **b. Minimum coverage for mulching shall be 90% to a depth of 2".** **c. If slash packing is used, it shall be placed to effectively prevent erosion and filter sediment. Coverage of slash used for this purpose shall be 90% to a minimum depth of 4".** **d. Soil stabilization treatment shall be done upon completion of timber operations for the year of use, or prior to October 15th.** **e. Areas within the WLPZ or ELZ which are disturbed after October 15th shall be treated within 10 days.**
923.5[943.5,963.5](n)—where natural ability of ground cover in WLPZ is inadequate to protect.	Not applicable.
923.5[943.5,963.5](o) Exceptions to soil stabilization treatment timing.	Not applicable.
Watercourse crossings on logging roads	**DESCRIPTION OF TREATMENTS/PROTECTION MEASURES or not applicable**
923.9[943.9,963.9] (t)(1)-(3) bare soil on fills, sidecast, timing of treatment.	**1) Areas within a WLPZ where bare mineral soil has been exposed exceeding 800 ft² shall be treated for reduction of soil loss.** **2) Bare soil on fills or sidecast associated with logging road watercourse crossings that**

	are created or exposed by timber operations shall be stabilized to the extent necessary to minimize soil erosion and sediment transport and to prevent significant sediment discharge. **3) Sidecast or fill exceeding 20 feet in slope distance from the outside edge of the road surface at the logging road watercourse crossing shall be treated for the reduction of soil loss.** **4) Mineral soil that has been exposed by timber operations on approaches to watercourse crossings of Class I or II waters, or Class III waters with an ELZ shall be stabilized.** **5) Soil stabilization within the WLPZ or ELZ shall be done to prevent discharge of soil in amounts that would be deleterious to the quality and beneficial uses of water.** **6) Soil stabilization measures shall include seeding, mulching, or spreading of slash.** **a) Minimum coverage of mulching shall be 90% to a minimum depth of 2".** **b) The spreading of slash or "slash packing" shall be strategically placed so that it has the desired effect of preventing erosion and filtering sediment. Spreading of slash shall be 90% coverage to a minimum depth of 4".** **5) Soil stabilization treatment(s) shall be done upon completion of operations or prior to October 15th, whichever occurs first. Areas within the WLPZ or ELZ which are disturbed after October 15th shall be treated within 10 days.**

Non ASP and exempt ASP watersheds WLPZ, & protected ELZ & EEZ	DESCRIPTION OF: TREATMENTS, PROTECTION MEASURES, and TIMING or not applicable
916.7[936.7,956.7]—Stabilization measures for WLPZ of Cl I & C II.	**1) Areas within a WLPZ adjacent to Class II waters, where bare mineral soil has been exposed exceeding 800 continuous ft² in size and exposed by timber operations, shall be treated for the reduction of soil loss.** **2) Mineral soil that has been exposed by timber operations on approaches to watercourse crossings of Class I or II waters, or Class III waters with an ELZ shall be stabilized.** **3) Soil stabilization within the WLPZ or ELZ shall be done to prevent discharge of soil in amounts that would be deleterious to the quality and beneficial uses of water.** **4) Soil stabilization treatment(s) shall be done upon completion of operations or prior to October 15th, whichever occurs first. Areas within the WLPZ or ELZ which are disturbed after October 15th shall be treated within 10 days.** **5) Soil stabilization measures shall include seeding, mulching, or spreading of slash.** **a) Minimum coverage of mulching shall be 90% to a minimum depth of 2".** **b) The spreading of slash or "slash packing" shall be strategically placed so that it has the desired effect of preventing erosion and filtering sediment. Spreading of slash shall be 90% coverage to a minimum depth of 4".** **6) Where necessary to protect the beneficial uses of water from timber operations, protection measures, such as seeding, mulching, or replanting, shall be specified to retain and improve the natural ability of the ground cover within the standard width of the WLPZ to filter sediment, minimize soil erosion, and stabilize banks of watercourses.**

19. [☐]Yes [x] No Are tractor or skidder constructed layouts to be used? If yes, specify the location and extent of use.

20. [☐]Yes [x] No Will ground based equipment be used within the area(s) designated for cable yarding? If yes, specify the location and for what purpose the equipment will be used. 914.3 [934.3, 954.3] (e).

21. Within the THP area will ground based equipment be used on:

- **a.** [☐]Yes [x] No Unstable areas? Only allowed if unavoidable.
- **b.** [☐]Yes [x] No Slopes over 65%?
- **c.** [☐]Yes [x] No Slopes over 50% with high or extreme EHR?
- **d.** [☐]Yes [x] No Slopes between 50% and 65% with moderate EHR where heavy equipment use will not be restricted to the limits described in 914.2 [934.2, 954.2] (f) (2) (i) or (ii)?
- **e.** [☐]Yes [x] No Slopes over 50% which lead without flattening to sufficiently dissipate water flow and trap sediment before it reaches a watercourse or lake?

Note: If any of the above are answered "yes": any required site specific measures should be provided in Section II; and the required explanation and justification should be provided in Section III. See 914.2[934.2,954.2](d) and (f) for specific information. In addition, all exceptions must be located on a map. 1034(x)(15). If "b", "c", "d" or "e" is answered "yes": tractor road locations must be flagged on the ground prior to the PHI or start of operations if a PHI is not required.

22. [☐]Yes [x] No Are any alternative practices to the standard harvesting or erosion control rules proposed? If yes, the information as required by 914.9 [934.9, 954.9] should be provided in Section III. Provide instructions to the LTO below.

WINTER OPERATIONS

23. **NOTE:** "Winter period" means the period between November 15 and April 1, except as noted under special County Rules at 925.1, 926.18, 927.1, and 965.5. "Extended wet weather period" means the period from October 15 to May 1.

(a) Tractor roads (except as otherwise provided in the rules): (1) All waterbreaks shall be installed no later than the beginning of the winter period of the current year of timber operations. (2) Installation of drainage facilities and structures is required from October 15 to November 15 and April 1 to May 1 on all constructed skid trails and tractor roads prior to sunset if the National Weather Service forecast is a "chance" (30% or more) of rain within the next 24 hours. 914.6[934.6, 954.6](a).

(b) Logging roads and landings used for timber operations shall have adequate drainage upon completion of use for the year or by October 15, whichever is earlier. An exception is that drainage facilities and drainage structures do not need to be constructed on logging roads and landings in use during the extended wet weather period provided that all such drainage facilities and drainage structures are installed prior to the start of rain that generates overland flow. 923.5[943.5, 963.5](j).

(c) When the term **"WPOP"** (Winter Period Operating Plan) is used below, all the requirements pursuant to 914.7[934.7, 954.7] **(b)** must be addressed.

a. [☐]Yes [x] No — Will timber operations occur during the winter period? If yes, address "b" – "n", as applicable.

b. [☐]Yes [ ] No — Will mechanical site preparation be conducted during the winter period? If yes, provide a WPOP.

c. [☐] — I choose the in-lieu option as allowed in 914.7[934.7,954.7](c). Specify below the procedures listed subsections (1) and (2), and list the site specific measures for operations in the WLPZ and unstable areas as required by subsection (3), if there will be no winter operations in these areas, so state.

d. [☐] — I choose to prepare a WPOP. 914.7[934.7,954.7](b).

e. [☐]Yes [☐] No — Will tractor watercourse crossings be used during the winter period? If yes, provide operational instructions and stabilization measures in the winter period operating plan. If an exception is proposed an explanation and justification should be provided in Section III. 914.8 [934.8,954.8](d).

f. [☐]Yes [☐] No — Will roads or landings be constructed during the winter period? If yes, provide a complete winter period operating plan pursuant to 14 CCR 914.7 [934.7, 954.7] that specifically addresses such logging road or landing construction or reconstruction. 923.4[943.4, 963.4](l). Note: if located in an ASP watershed or immediately upstream from ASP, see "m" below.

g. [☐]Yes [☐] No — Will roads or landings be used for log hauling and heavy equipment use during the winter period and not be restricted to roads with a stable operating surface, or surfaced with rock to a depth and quantity sufficient to maintain such a surface? If yes, the required explanation and justification should be provided in Section III. 923.6 [943.6, 963.6](g). See also 914.7[934.7,954.7].

h. [☐]Yes [☐] No — Will roads or landings be used for log hauling and heavy equipment use during the winter period on roads that are not hydrologically disconnected and exhibit saturated soil conditions? If yes, the required explanation and justification should be provided in Section III. 923.6 [943.6, 963.6](g). See also 914.7[934.7,954.7].

i. [☐]Yes [☐] No — Will temporary logging roads and landings be used during the winter period; or will logging roads to be abandoned or deactivated, be open (not be blocked) during the winter period? If yes, provide specific measures to be taken during operations in a WPOP. 923.6 [943.6, 963.6](f), 923.8 [943.8, 963.8] and (d).

j. [☐]Yes [☐] No — Will any logging road watercourse crossing proposed for removal not be removed and stabilized prior to the winter period? If yes, provide the specifics of the applicable CDFW 1600 agreement, or otherwise specify in the plan. 923.9 [943.9, 963.9] (p)(4).

k. [☐]Yes [☐] No — Will any temporary logging road watercourse crossing not be removed and stabilized prior to the winter period? If yes, provide specific measures to be taken during operations in a WPOP. 923.9 [943.9, 963.9](r).

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ROADS AND LANDINGS

24. Will any roads be constructed? [ ]Yes [**X**] No, or reconstructed? [☐]Yes [**x**] No If yes, check items "a." – "e" & "g."
Will any landings be constructed? [☐]Yes [**x**] No, or reconstructed? [☐]Yes [**x**] No If yes, check items "h." -- "j."
PROVIDE: The classification and approximate length of each of the following logging road segment categories: constructed, reconstructed, and abandoned. 1034(o). **Not applicable, there are no roads to be constructed, reconstructed, or abandoned as part of this THP.**

a. [ ]Yes [**X**] No Will new or reconstructed roads be wider than single lane with turnouts? If yes, address pursuant to 923 [943, 963](c). 923.2 [943.2, 963.2](d)(1).

b. [☐]Yes [**x**] No Will any logging road cross an unstable area or connected headwall swale? If yes, address pursuant to 923.1 [943.1, 963.1](d). Also see 895.1 "Connected Headwall Swale"

c. [☐]Yes [**x**] No Will new roads exceed a grade of 15% or have pitches of up to 20% for distances greater than 500 feet? If yes, address pursuant to 923.2 [943.2, 963.2] (d)(2). See 923 [943, 963](c). Map must identify any new or reconstructed road segments that exceed an average 15% grade for over 200 feet. 1034(x)(5)(A).

d1. [☐]Yes [**x**] No Will any logging roads or landings be constructed within: 150' of a Class I WLTL; 100 feet of a Class II WLTL on slopes > 30%; Class I, II, III, or IV watercourses or lakes; a WLPZ; or in marshes, wet meadows, and other wet areas except as described under 923.1 [943.1, 963.1](b)(1) – (3)? If yes, address the exception. 923 (943, 963](c).

d2. [☐]Yes [**x**] No Will any logging roads or landings be reconstructed within: a Class I, II, III, or IV watercourse or lake; a WLPZ; or in marshes, wet meadows and other wet areas except as described under 923.1 [943.1, 963.1] (c)(1) – (3)? If yes, address the exception. 923 (943, 963](c).

e. [☐]Yes [**x**] No Will any constructed or reconstructed road be located across more than 100 feet of lineal distance on slopes over 65%, or on slopes over 50% which are within 100 feet of the boundary of a WLPZ that drain toward the zoned watercourse or lake? If yes, address pursuant to 923.2[943.2, 963.2] (a)(7) and 923.4 [943.4, 963.4](n).

f. [☐]Yes [**x**] No Will any roads or watercourse crossings be deactivated or abandoned? If yes, address pursuant to 923.8 [943.8, 963.8] et seq. Also see 923.9[943.9, 963.9](e) and (p).

g. [☐]Yes [**x**] No Is there any exception to flagging or otherwise identifying the location of any road to be constructed or reconstructed? If yes, address pursuant to 923.3 [943.3, 963.3](c).

h. [☐]Yes [**x**] No Will any landings exceed one half acre in size? If yes, address pursuant to 923 [943, 963](c). 923.2[943.2, 963.2](e)(2) If any landing exceeds one quarter acre in size or requires substantial excavation, the location must be shown on the map. 1034(x)(5)(D).

i. [☐]Yes [**x**] No Will any landing be located on an unstable area or connected headwall swale? If yes, address pursuant to 923.1[943.1, 963.1](d). Also see 895.1 "Connected Headwall Swale"

j. [☐]Yes [**x**] No Will any constructed or reconstructed landing be located on more than 100 feet of lineal distance on slopes over 65% or on slopes over 50% which are within 100 feet of the boundary of a WLPZ and drain toward the zoned watercourse or lake? If yes, address pursuant to 923.2[943.2, 963.2] (a)(7) and 923.4 [943.4, 963.4](n).

k. [☐]Yes [**x**] No Will any landing be deactivated or abandoned? If yes, address pursuant to 923.8[943.8, 963.8] et seq.

l. [**X**]Yes [ ] No **Significant Erosion Sites**: Are there any significant existing or potential erosion sites associated with logging roads, landings and watercourse crossings in the logging area? (923.1 [943.1, 963.1](e)(1) – (5). Also see 923.9 [943.9, 963.9](a)) If yes, for each significant existing or potential erosion site, provide the following (consider providing in a Map Point Table): **Erosion Sites have been included in the Map Point Table, following.**

- Locate and map significant existing and potential erosion sites.
- In addition, for each site:
  - Describe current condition of the site.
  - Identify which sites can be feasibly treated, and which sites cannot.
  - Specify mitigations for those sites that can be feasibly treated.
  - Describe a logical order of treatment for those which have feasible treatments.

m. [X]Yes [☐] No **ASP WATERSHED**: Will hauling on roads and landings be limited to those which are hydrologically disconnected from watercourses to the extent feasible, and exhibit a stable operating surface?

943.6 Use of Logging Roads and Landings

The following use standards shall apply to logging roads and landings:

(a) Logging roads and landings shall be used in a manner that is consistent with their design and construction specification.

(b) Logging roads and landings shall not be used during any time of year when operations may result in significant sediment discharge to watercourse or lakes, except in emergencies to protect the road, to reduce erosion, to protect water quality, or in response to public safety needs.

(c) During the extended wet weather period, log hauling or other heavy equipment uses shall be limited ot logging roads and landings that exhibit a stable operating surface in conformance with (b) above, routine use of logging roads and landings shall not occur when equipment cannot operate under its own power.

(d) When burning permits are required pursuant to PRC 4423, logging roads and landings that are in use shall be kept in passable condition for fire trucks.

(e) Roadside berms that impede logging road drainage, concentrate logging road surface flow or lead to hydrologic connection shall be removed or breached before the beginning of the winter period, with the exception of berms needed for erosion control.

(f) Temporary roads shall be blocked or otherwise closed to standard production four-wheel drive highway vehicles prior to the winter period, or upon completion of use as specific in an approved winter operating plan pursuant ot 14 CCR 934.7(b).

(g) Logging roads and landings used for log hauling or other heavy equipment uses during the winter period shall occur on a stable operating surface and, where necessary, be surfaced with rock to a depth and quantity sufficient to maintain such a surface. Use is prohibited on roads that are not hydrologically disconnected and exhibit saturated soil conditions.

25. **Note:** if any "item is answered "yes" (or "no" for "Item 24m"): specific LTO **operational information**, in accordance with the respective rule requirement(s), should be provided **in Section II**. Any required **explanation and justification** should normally be included **in Section III**. Additional notes relative to the Road Rules effective 1/1/15:

For ALL WATERSHEDS, as applicable:

- Where abandonment or deactivation is required or proposed, describe specific measures to prevent significant sediment discharge. 923.8 [943.8, 963.8].
- If the logging road is to be abandoned provide the blockage design. 923.8 [943.8, 963.8](d).

943.7 Maintenance and Monitoring of Logging Roads and Landings:

The following maintenance and monitoring standards shall apply to logging roads and landings:

(a) Logging road and landing surfaces shall be monitored and maintained during timber operations and throughout the prescribed maintenance period to ensure hydrologic disconnection from watercourses and lakes to the extent feasible, minimize soil erosion and sediment transport, and to prevent significant sediment discharge.

(b) Logging roads that are used in connection with stocking activities shall be maintained throughout such use, even if this extends beyond the prescribed maintenance period.

(c) During timber operations, road running surfaces in the logging area shall be treated as necessary to prevent excessive loss of road surface materials by methods including, but not limited to, rocking, watering, paving, chemically treating, or installing commercial grade erosion control devices to the manufacturer's specifications.

(d) Grading of logging roads or landings to obtain a drier running surface more than one time before reincorporation of any resulting berms back into the road surface is prohibited.

(e) Drainage facilities and drainage structures, including associated necessary protective structures, shall be maintained to allow free flow of water, and minimize soil erosion and slope instability. Drainage facilities and structures shall be repaired, replaced, or installed as needed to protect the quality and beneficial uses of water.

(f) Soil stabilization treatments on logging roads or landing cuts, fills, and sidecast shall be maintained as needed to reduce the potential for slope instability, minimize soil erosion and sediment transport, and to prevent significant sediment discharge.

(g) Heavy equipment shall not be used in a WLPZ for maintenance during wet weather, except in emergencies to protect the road, to reduce erosion, to protect water quality, or in response to public safety needs.

(h) Where there is evidence of significant sediment discharge along a logging road or landing used for timber operations, additional measures shall be implemented to minimize soil erosion and sediment transport, and to prevent significant sediment discharge.

(i) The prescribed maintenance period for erosion controls on logging roads and associated landings and drainage structures, including appurtenant, abandoned, and deactivated logging roads and landings, shall be at least one year. The Director may prescribe a maintenance period extending up to three years in accordance with 14 CCR 1050.

(k) All logging roads, including abandoned, deactivated, and appurtenant roads, landings, and associated drainage structures used for timber operations shall be monitored as needed to comply with 14 CCR 1050. Monitoring inspections shall be conducted, when access is feasible during the prescribed maintenance period, a sufficient number of times during the extended wet weather period, particularly after large winter storm events and at least once annually, to evaluate the function of drainage facilities and structures. The Department shall also conduct monitoring inspections at least once during the prescribed maintenance period to assess logging road and landing conditions.

1) Inspections shall include checking drainage facilities and structures for evidence of downcutting, plugging, overtopping, loss of function, and sediment delivery to Class I, II, or III watercourses or lakes. If evidence of sediment delivery or potential for significant sediment delivery is present, and the implementation of feasible corrective measures could reduce the potential for significant sediment discharge, such additional measures shall be implemented when feasible.

Water Drafting:

Water drafting for dust abatement associated with timber operations will occur at established hydrants owned and operated by Northstar, located within the Northstar ownership, and accessed from existing public roads and existing, private, seasonal roads being utilized for log haul as part of this THP.

PART OF PLAN

WATERCOURSE AND LAKE PROTECTION ZONE (WLPZ) AND DOMESTIC WATER SUPPLY PROTECTION MEASURES

Note: if any "item is answered "yes" provide the required information pursuant to the associated rule. Specific LTO **operational information** should be provided **in Section II. Explanation and justification** should normally be included **in Section III.**

26. a. [x]Yes [☐] No — Are there any watercourses or lakes which contain Class I through IV waters on or adjacent to the plan area? If yes, as applicable, provide: the class, associated WLPZ or ELZ width, and protective measures; determined from 916.5 [936.5, 956.5] Table I, 916.4 (936.4, 956.4)(c), and/or 916.9 [936.9, 956.9] et seq. Specify if Class III or IV watercourses have a WLPZ or ELZ.

b. [☐]Yes [x] No — Are there any tractor road watercourse crossings that require mapping per 1034 (x) (7)?

c. [☐]Yes [x] No — Will tractor road watercourse crossings involve the use of a culvert? If yes state minimum diameter and length for each culvert. 914.8[934.8, 954.8](e).

d. [☐]Yes [x] No — Is this THP Review Process to be used to meet Department of Fish and Wildlife CEQA review requirements? If yes, you should attach the required 1611 Addendum below, or at the end of Section II; and you should provide the background information and analysis in Section III; list instructions for LTO below for the installation, protection measures, and mitigation measures, as per THP Form Instructions or CDF Mass Mailing, 07/02/1999, "Fish and Game Code 1611 Agreements and THP Documentation".
Explanation regarding why crossings #28 and #29 do not require a 1600 permit has been provided in THP section III, page 54.

e. [☐]Yes [x] No — Are any exceptions provided under F & G code 1600 et seq., and made an enforceable part of plan? If yes, identify the exceptions. 923 [943,963](d).

f. [☐]Yes [x] No — Will new drainage structures and facilities on watercourses that support fish or listed aquatic species be constructed? If yes, structures and facilities shall be fully described and allow unrestricted passage and natural movement of bedload. 914.8[934.8, 954.8](c) and 923.9 [943.9, 963.9](c).

g. [ ]Yes [x] No — Are there any new permanent constructed, reconstructed, and temporary logging road watercourse crossings, including those to be abandoned or deactivated that require mapping per 1034 (x)(6)? If structure is a permanent culvert, specify the minimum diameter and the method(s) used to determine the culvert diameter. 923.9 [943.9, 963.9](e).

h. [☐]Yes [x] No — Is there any exception to flagging or otherwise identifying the location of any constructed or reconstructed road watercourse crossing prior to the pre harvest inspection? If yes, provide an explanation and justification pursuant to 923.9 [943.9, 963.9](e)(1).

i. [☐]Yes [x] No — Will methods other than critical dips be utilized in the construction or reconstruction of logging road watercourse crossings which utilize culverts? If yes, provide the methods that will be used to address diversion of overflow. 923.9 [943.9, 963.9](j).

j. [x]Yes [☐] No — Are there any watercourse crossings that are existing or proposed for construction that are located on logging roads within the logging area? If yes, identify the crossing and provide the methods to mitigate or address the diversion of stream overflow at the crossing. 923.9 [943.9, 963.9](k).
Watercourse Crossings and mitigations have been provided in the map point table, following.

k. [x]Yes [ ] No — Will rock be used to stabilize crossing outlets? If yes, describe the range of required rock dimensions. 923.9 [943.9, 963.9](l).
Rock will be placed as an energy dissipater at the outlet of crossing #4. Rock utilized shall be native angular rock of a minimum 6" in size.

l. [☐]Yes [x] No — Is there a significant volume of sediment stored upstream from any crossing proposed to be reconstructed or removed? If yes, describe how the stored sediment shall be removed or stabilized, to the extent feasible, and in conformance with CDFW 1600 agreements, where applicable. 923.9 [943.9, 963.9](n).

m. [☐]Yes [x] No — Are crossing fills over culverts large, or do logging road watercourse crossing drainage structures and erosion control features historically have a high failure rate? If yes, such drainage structures and erosion control features shall be oversized, designed for low maintenance, reinforced, or removed before the completion of timber operations; or as specified in the plan. 923.9 [943.9, 963.9](o).

n. [☐]Yes [x] No — Will any logging road watercourse crossing be removed? If yes, describe the removal in the plan pursuant to the standards of 923.9 [943.9, 963.9](p)(1) – (4).

Watercourse and Lake Protection Zone Widths and Protective Measures						
Slope	Class I		Class II		Class III	
	Width	Protection Measures	Width	Protection Measures	Width	Protection Measures
<30%	75	BDG	50	BEI	25	CFH
30-50%	100	BDG	75	BEI	50	CFH
>50%	NA	NA	100	BEI	50	CFH

"B" WLPZ shall be clearly identified on the ground by an RPF, or supervised designee, with paint, flagging, or other suitable means, prior to the preharvest inspection.

"C" All class III watercourses will have an ELZ of 25 or 50 feet as based in side slope as per the WLPZ table above. The ELZ shall be clearly identified on the ground with flagging prior to the start of operations. At least 50% of understory vegetation will be left living and well distributed within the ELZ to maintain soil stability.

The following limitations apply within the Class III ELZ:

a) Heavy equipment operations shall not occur within the boundaries of the ELZ.
b) Directional felling away from the watercourse and end lining from the ELZ are permitted.
c) Use of existing tractor crossings that are dry at the time of operations is permitted.
d) The number of tractor crossings shall be kept to a feasible minimum, utilizing existing crossing locations wherever possible.
e) Use of existing haul road crossings that are dry at the time of hauling is permitted.

"D" To ensure retention of shade canopy filer strip properties of the WLPZ and the maintenance of a multi-storied stand for protection of values described in 14 CCR 936.4(b), residual or harvest trees shall be marked, including a base mark below the cut line within the WLPZ by the RPF, or supervised designee. Outside of watersheds with listed anadramous salmonids, sample marking prior to the preharvest inspection is satisfactory in those cases where the Director determines it is adequate for plan evaluation. When sample marking has been used, the remaining WLPZ shall be marked in advance of falling operations by the RPF, or supervised designee.

"E" To ensure retention of shade canopy filer strip properties of the WLPZ and the maintenance of a multi-storied stand for protection of values described in 14 CCR 936.4(b), residual or harvest trees shall be marked, including a base mark below the cut line within the WLPZ by the RPF, or supervised designee. Outside of watersheds with listed anadramous salmonids, sample marking prior to timber falling operations.

"F" Trees within the ELZ shall be marked with paint prior to the start of timber operations.

"G" To protect water temperature, filter strip properties, upslope stability, and fish and wildlife values, at least 50% of the overstory and 50% of the understory canopy covering the ground and adjacent waters shall be left in a well distributed multi-storied stand composed of a diversity of species similar to that found before the start of operations. The residual overstory canopy shall be composed of at least 25% of the existing overstory conifers.

"H" At least 50% of the understory vegetation present before timber operations shall be left living and well distributed within the ELZ to maintain soil stability. Unless required by the Director, this shall not be construed to prohibit broadcast burning with a project type burning permit for site preparation.

"I" To protect water temperature, filter strip properties, upslope stability, and fish and wildlife values, at least 50% of the overstory and 50% of the understory canopy covering the ground shall be left in a well distributed multi-storied stand composed of a diversity of species similar to that found before the start of operations. The residual overstory canopy shall be composed of at least 25% of the existing overstory conifers.

NA = "Not Applicable", no such watercourse exists on specified slopes.

943.9 Watercourse Crossings

Watercourse crossing drainage structures on logging roads shall be planned, constructed, reconstructed, and maintained or removed according to the standards provided in this rule section.

(h) Logging road watercourse crossings shall not discharge water onto erodible fill or other erodible material without the installation of energy dissipaters and other necessary protective structures.

(j) Critical dips shall be incorporated into the construction or reconstruction of logging road watercourse crossings utilizing culverts, except where diversion of overflow is addressed by other methods stated in the Plan.

(k) Watercourse crossings and associated fills and approaches shall be constructed and maintained to prevent diversion of stream overflow down the road, and to minimize fill erosion should the drainage structure become obstructed. Methods to mitigate or address diversion of stream overflow at logging road watercourse crossings shall be stated in the Plan (see Map Point Table).

(l) Any necessary protective structures associated with logging road watercourse crossings such as wing walls, rock armored headwalls, and downspouts shall be adequately sized to transmit runoff, minimize erosion of crossing fills, and prevent significant sediment discharge. Rock used to stabilize the outlets of crossings shall be adequately sized to resist mobilization, with the range of required rock dimensions described in the plan.

(m) The following drainage standards shall apply to logging watercourse crossings:

1) Adequate surface drainage at logging road watercourse crossings shall be provided through the use of logging road surface shaping in combination with the installation of drainage facilities, ditch drains, or other necessary protective structures to hydrologically disconnect the road from the crossing to the extent feasible.

2) Consistent with 14 CCR 943.5 (a-i), drainage facilities and ditch drains shall be installed adjacent to logging road watercourse crossings, as needed, to hydrologically disconnect to the extent feasible the logging road approach from the crossing, to minimize soil erosion and sediment transport, and to prevent significant sediment discharge during and upon completion of timber operations.

3) Drainage structures and facilities installed adjacent to logging road watercourse crossings shall be located to avoid discharge concentrated runoff onto fills, erodible soils, unstable areas, and connected headwall swales to the extent feasible.

(p) All logging road watercourse crossings that are proposed by the submitter to be removed including temporary crossings and those along abandoned or deactivated roads shall be removed as specified in the Watercourse/Road Drainage Structure Inventory. The following standards shall apply:

1) Fills shall be excavated to form a channel that is as close as feasible to the natural watercourse grade and orientation, and that is wider than the natural channel as observed upstream and downstream of the logging road watercourse crossing to be removed.

2) The excavated material and any resulting cut bank shall be no greater than 65 percent (1.5:1, horixontal to vertical) from the outside edge of the constructed channel to prevent slumping, to minimize soil erosion and sediment transport, and to prevent significant sediment discharge. Exposed soil located between the watercourse crossing and the nearest adjacent drainage facility or hydrologic divide, whichever is closer, including curt banks and excavated material, shall be stabilized by seeding, mulching, rock armoring, replanting, or other suitable treatment to prevent soil erosion and significant sediment discharge.

3) All logging road watercourse crossings and associated fills proposed for removal or converted to fords shall be removed prior to the winter period or upon completion of use. See Map Point Table following.

4) All logging road watercourse crossings proposed for removal shall be removed upon completion of use, prior to the winter period, or as specified in the applicable CDFW 1600 agreement, whichever is earlier, or as otherwise specified in the Plan.

(q) Logging road watercourse crossings shall not be constructed or reconstructed under saturated soil conditions or when such activities could result in significant sediment discharge.

(r) Temporary logging road watercourse crossings shall be removed and stabilized prior to the winter period or as specified in the Plan.

(t) See Item 18 for stabilization standards at road watercourse crossings.

(u) All logging roads, including abandoned, deactivated, and appurtenant roads, landings, and associated drainage structures used for timber operations shall be monitored as needed to comply with 14 CCR 1050. Monitoring inspections shall be conducted, when access is feasible during the prescribed maintenance period, a sufficient number of times during the extended wet weather period, particularly after large winter storm events and at least once annually, to evaluate the function of drainage facilities and structures. The Department shall also conduct monitoring inspections at least once during the prescribed maintenance period to assess logging road and landing conditions.

1) Inspections shall include checking drainage facilities and structures for evidence of downcutting, plugging, overtopping, loss of function, and sediment delivery to Class I, II, or III watercourses or lakes. If evidence of sediment delivery or potential for significant sediment delivery is present, and the implementation of feasible corrective measures could reduce the potential for significant sediment discharge, such additional measures shall be implemented when feasible.

(v) Logging road watercourse crossings shall be maintained as designed, constructed, and reconstructed during timber operations and throughout the prescribed maintenance period. Crossings used in connection with stocking activities shall be maintained throughout such use, even if this extends beyond the prescribed maintenance period.

MAP POINT TABLE[1]						
MAP POINT	SITE DESCRIPTION	WATERCOURSE CLASSIFICATION	EXISTING CULVERT DIAM.	PROPOSED CULVERT DIAM	IMPLEMENTATION PRIORITY	COMMENTS
1	CRP/C/SI	IDR	12"	NA	Med	None
	Mitigation/Mgmt: Clear inlet; Clean out inside ditch between crossings 1 and 2.					
2	CRP/C/SI	IDR	12"	NA	Med	None
	Mitigation/Mgmt: Clear inlet.					
3	CRP/C/OK	IDR	12"	NA	NA	None
	Mitigation/Mgmt: None needed.					
4	CRP/C/EDN/CD	IDR	12"	NA	Med	None
	Mitigation/Mgmt: Place rock as energy dissipator, using 6"+ native angular rock; repair outlet					
5	CRP/C/CD	IDR	12"	NA	Med	None
	Mitigation/Mgmt: Repair partially crushed inlet.					
6	DSW/CBC/FF	I	NA	NA	Med	None
	Mitigation/Mgmt: Rock armor fill slope east of crossing to prevent fill slope erosion.					
7	CRP/C/OK	IDR	8"	NA	NA	None
	Mitigation/Mgmt: None needed.					
8	CRP/C/	IDR	12"	12"	Med	None
	Mitigation/Mgmt: Replace with culvert at least 12' in length to allow for log truck passage over crossing.					
9	CRP/C/CP	IDR	12"	NA	Med	None
	Mitigation/Mgmt: Pipe 15% full with sediment; Clear sediment from pipe.					
10	CRP/C/OK	IDR	12"	NA	NA	None
	Mitigation/Mgmt: None needed.					
11	F	IDR	NA	NA	Med	None
	Mitigation/Mgmt: Dip out crossing to prevent lateral movement and contain flow.					
12	CRP/C/SI	IDR	24"	NA	Med	None
	Mitigation/Mgmt: Clear sediment & small woody debris from inlet.					
13	CRP/C/SI	SKI	12"	NA	Med	None
	Mitigation/Mgmt: Clear sediment & small woody debris from inlet.					
14	CRP/C/SI/CD	SKI	12"	NA	Med	None
	Mitigation/Mgmt: Clear sediment & small woody debris from inlet; Repair inlet and outlet.					
15	CRP/C/OK	I & IDR	36"	NA	NA	None
	Mitigation/Mgmt: None needed.					

[1] A geologist was not used for any of the Map Table information. A 1600 Permit is not currently on file for the crossings identified within the Map Point Table.

16	CRP/C/OK	IDR	12"	NA	NA	None
	Mitigation/Mgmt: None needed.					
17	CRP/C/OK	IDR	12"	NA	NA	None
	Mitigation/Mgmt: None needed.					
18	CRP/C/SI	IDR	20"	NA	Med	None
	Mitigation/Mgmt: Clear debris from inlet and outlet.					
19	CRP/C/OK	SKI	36"	NA		None
	Mitigation/Mgmt:					
20	CRP/C/SI	IDR	10"	NA	Med	None
	Mitigation/Mgmt: Clear sediment from pipe.					
21	CRT/F	III	NA	NA	Med	None
	Mitigation/Mgmt: None needed; Remove crossing prior to Oct.15th annually as per 943.9(p).					
22	CRP/C/SI	III	18"	NA	Med	None
	Mitigation/Mgmt: Clear sediment from inlet.					
23	CRP/C/SI	IDR	10"	NA	Med	None
	Mitigation/Mgmt: Clean out sediment pond at inlet.					
24	CRP/C/FF	II	24"	NA	Med	None
	Mitigation/Mgmt: Stabilize fill slope above outlet.					
25	CRP/C/SI	IDR	8"	NA	Med	None
	Mitigation/Mgmt: Clean out sediment pond at inlet.					
26	CRP/C/OK	IDR	6"	NA	Med	None
	Mitigation/Mgmt: Clear sediment from inlet and outlet.					
27	CRP/C/ST	IDR	12"	NA	Med	None
	Mitigation/Mgmt: Sediment transport apparent on road adjacent to inside ditch; Clear inside ditch to effectively transport water to CMP.					
28	CRT/F/IL	I	NA	NA	Med	Med
	Mitigation/Mgmt: None needed; Remove crossing prior to Oct.15th annually as per 943.9(p).					
29	CRT/F/IL	I	NA	NA	Med	None
	Mitigation/Mgmt: None needed; Remove crossing prior to Oct.15th annually as per 943.9(p).					
30	CRP/C/OK	III	12"	NA	Med	None
	Mitigation/Mgmt: None needed.					
31	CRP/C/CRN	I	24"	NA	Med	None
	Mitigation/Mgmt: Critical Dip needed at crossing.					
32	B/OK	I	NA	NA	Med	None
	Mitigation/Mgmt: None needed.					
33	SES	I	NA	NA	Med	None
	Mitigation/Mgmt: Significant erosion site consists of existing bank erosion on the east edge of West Martis					

	Creek due to lack of adequate energy dissipater at the outlet of crossing #4 as shown on the THP map. Future erosion should be appropriately mitigated through application of the mitigation measure identified for Map Point # 4 above.					
34	PES	NA	NA	NA	Med	None
	Mitigation/Mgmt: Potential Erosion Site consisting of a 350' length of road with inside ditch, which lacks ditch relief or surface drainage. Inside ditch appears to be contributing sediment to the spillway of Sawmill Reservoir, which is tributary to West Martis Creek. Future erosion should be appropriately mitigated through the following mitigation measures: Install a rolling dip where discharge can be dispersed onto forest vegetation. Location shall be between Crossing #6 and #7.					
35	PES	NA	NA	NA	Med	None
	Mitigation/Mgmt: Potential Erosion Site consists of minor fill slope erosion east of the Sawmill Reservoir spillway crossing, on north side of road. This erosion is due to drainage from the levee travelling down to and across the road. Future erosion should be appropriately mitigated through the following mitigation measure: Install a rolling dip to transport the levee drainage to the north side of the road. An adequate energy dissipater in the form of native angular rock no smaller than 6" shall be placed at the dip outlet. Additional existing fill slope erosion evident on the north side of road at this location shall be stabilized utilizing native angular rock 6"+ in size.					
36	C/CD/CRN	I	18"	N/A	Med	None
	Mitigation/Mgmt: Repair culvert inlet. Critical Dip Needed at Crossing; clear sediment from outlet.					
37	HRW/RD/EDN	NA	NA	NA	Med	None
	Mitigation: Road sloped towards reservoir; Create rolling dip and install energy dissipater at dip outlet to prevent sediment discharge to reservoir. Dissipater shall be native angular rock 6" in size.					
38	HRW/RD/EDN	NA	NA	NA	Med	None
	Mitigation: Road sloped towards reservoir; Create rolling dip and install energy dissipater at dip outlet to prevent sediment discharge to reservoir. Dissipater shall be native angular rock 6" in size.					
39	RD/EDN	NA	NA	NA	Med	None
	Mitigation: Recreate rolling dip, clear throat of rolling dip, and install energy dissipater at dip outlet to prevent sediment discharge towards reservoir. Dissipater shall be native angular rock 6" in size.					
40	C/EDN	II Spring	12" with stand pipe	NA	Med	None
	Mitigation: Place rock as energy dissipater, using 6"+ native angular rock					

Key:
B = Bridge
C = Culvert
CBC = Cement Box Culvert
CD = Damaged inlet or outlet
CP = Culvert Partially Plugged
CRN = Critical Dip Needed
CRP = Crossing – existing permanent
CRT = Crossing = existing temporary
DSW = Dam Spillway
EDN = Energy Dissipater Needed
F = Ford
FF = Fill Failure
HRW = Haul Road in WLPZ
IDR = Inside Ditch Relief
IL = In Lieu Practice
NA = Not Applicable
OK = Functional Site
PES = Potential Erosion Site
RD = Rolling Dip
SES= Significant Erosion Site
SI = Sediment at Inlet
SIO = Sediment at inlet and outlet
SKI = Surface drainage on existing ski run resulting from overland flow
ST = Sediment Transport

Map Symbol Key:

- Road Mitigation Point
- Watercourse_Crossing
- Erosion Site

Implementation Priority:
Med=Mitigations shall be applied concurrent with operations affecting site.

Temporary Dry Ford Crossing of Class III Watercourse – Non Winter Period Use Only

1. Temporary Dry Ford Crossings shall be designed to be wider than the active watercourse channel to allow the natural movement of channel material.
2. Dips shall be constructed at the same gradient as the watercourse channel and to depth consistent with the channel.
3. Dips shall be constructed such that they are aligned parallel to the natural watercourse channel.
4. Temporary Dry Ford crossings shall not be used during the winter period (October 15 to May 15th annually).
5. Temporary crossings must be removed at the end of operations, or prior to October 15th, whichever occurs first.
6. As per 14CCR 943.9(p)), when watercourse crossings, other drainage structures, and associated fills are removed the following standards shall apply:
   (a) Fills shall be excavated to form a channel that is as close as feasible to the natural watercourse grade and orientation, and that is wider than the natural channel as observed upstream and downstream of the logging road watercourse crossing to be removed.
   (b)The excavated material and any resulting cut bank shall be no greater than 65 percent (1.5:1, horizontal to vertical) from the outside edge of the constructed channel to prevent slumping, to minimize soil erosion and sediment transport, and to prevent significant sediment discharge. Exposed soil located between the watercourse crossing and the nearest adjacent drainage facility or hydrologic divide, whichever is closer, including cut banks and excavated material, shall be stabilized by seeding, mulching, rock armoring, or other suitable treatment to prevent soil erosion and significant sediment discharge. This stabilization shall occur by mulching with logging slash, tree chips, or native pine needles to a depth of 2" covering 90% of the disturbed area.

Temporary Tractor Road Watercourse Crossing of Class I Watercourse

Tractor Crossings # 28 and #29 shall be temporary dry tractor crossings over Class I watercourses. Use of the subject crossings shall be permitted according to the following restrictions:

1. Crossings 28 and 29 shall not be used if water is present at the crossing site during the time of operations.
2. Crossings 28 and 29 will not be used if the National Weather Service forecasts a 30% or greater chance of precipitation within 24 hours. If during operations, the National Weather Service forecasts a 30% or greater chance of precipitation within 24 hours, the crossing will be removed according to specifications of (4) below. Operations utilizing crossings 28 and 29 shall be planned to occur when the 24-hour forecast calls for conditions conducive to dry conditions.
3. As per 14 CCR 943.4(p)(4), crossings 28 and 29 shall be removed upon completion of use, or by the first day of the winter period (October 15th, annually), whichever occurs first.
4. As per 14CCR 943.9(p)), when watercourse crossings, other drainage structures, and associated fills are removed the following standards shall apply:
   (a) Fills shall be excavated to form a channel that is as close as feasible to the natural watercourse grade and orientation, and that is wider than the natural channel as observed upstream and downstream of the logging road watercourse crossing to be removed.
   (b)The excavated material and any resulting cut bank shall be no greater than 65 percent (1.5:1, horizontal to vertical) from the outside edge of the constructed channel to prevent slumping, to minimize soil erosion and sediment transport, and to prevent significant sediment discharge. Exposed soil located between the watercourse crossing and the nearest adjacent drainage facility or hydrologic divide, whichever is closer, including cut banks and excavated material, shall be stabilized by seeding, mulching, rock armoring, or other suitable treatment to prevent soil erosion and significant sediment discharge. This stabilization shall occur by mulching with logging slash, tree chips, or native pine needles to a depth of 2" covering 90% of the disturbed area.

Rolling Dip Installation

1. Rolling dips shall be installed to disperse and disconnect inside ditch drainage from leading directly into watercourses and/or drainage structures where necessary.
2. Rolling dips shall be installed at an interval frequent enough to appropriately drain the road surface.
3. Rolling dips shall be constructed to allow for proper drainage and prevent runoff from continuing down the road surface.

27. Are site specific practices proposed in-lieu of, or as an alternative to, the following standard WLPZ practices?

a. [X]Yes [ ] No Prohibition of the construction or use of tractor roads in Class I, II, III, or IV watercourses, WLPZs, marshes, wet meadows, and other wet areas except as follows (916.3 [936.3, 956.3](c)):
- (1) At prepared tractor road crossings.
- (2) Crossings of Class III watercourses which are dry at time of timber operations.
- (3) At new tractor and road crossings approved by Department of Fish and Wildlife.

b. [☐]Yes [x] No Retention of non-commercial vegetation bordering and covering meadows and wet areas?

c. [X]Yes [ ] No Directional felling of trees within the WLPZ away from the watercourse or lake?

d. [☐]Yes [x] No Decrease of width(s) of the WLPZ(s)?

e. [☐]Yes [x] No Protection of watercourses which conduct class IV waters?

f. [x]Yes [ ] No Exclusion of heavy equipment from the WLPZ except as follows (916.4 [936.4, 956.4](d) and (f)):
- (1) At prepared tractor road crossings.
- (2) Crossings of Class III watercourses which are dry at time of timber operations.
- (3) At existing road crossings.
- (4) At new tractor and road crossings approved by Department of Fish and Game.

g. [☐]Yes [x] No Establishment of ELZ for Class III watercourses unless sideslopes are <30% and EHR is low?

h. [X]Yes [ ] No Retention of at least 50% of the overstory canopy in the WLPZ?

i. [X]Yes [ ] No Retention of at least 50% of the understory in the WLPZ?

j. [ ]Yes [x] No Are any additional in-lieu or any alternative practices proposed for watercourse or lake protection?

NOTE: A yes answer to any of items "a." through "j." constitutes an in-lieu or alternative practice. Refer to 916.1 [936.1, 956.1] for addressing the in lieu practices. For each item marked "yes", the operational information proposed under #2 below should be provided in Section II, including mapping requirements [1034(x)(15) and (16)]; and the following should normally be provided in Section III:

1. State the standard rule;
2. Explain and describe each proposed practice
3. Explain how the proposed practice differs from the standard practice;
4. Provide an explanation and justification as to how the protection provided is equal to the standard rule and provides for the protection of the beneficial uses of water, as per 916.1 (936.1, 956.1) (a).

Refer to 916.6 [936.6, 956.6] and/or 916.9 [936.9, 956.9] (v) for addressing alternative practices .

In-Lieu Practice #1: Retention of Less Than 50% Overstory and Understory in the WLPZ.

1. **Standard Rule:** 14 CCR 936.5, Procedures for Determining Watercourse and Lake Protection Zone Widths and Protective Measures, Table 1, requires that a watercourse where fish are always or seasonally present onsite, including habitat to sustain fish migration and spawning, be classified as a Class I Watercourse. Further in this Table, Protective measure "G" states that "*To protect water temperature, filter strip properties, upslope stability, and fish and wildlife values, at least 50% of the overstory and 50% of the understory canopy covering the ground and adjacent waters shall be left in a well distributed multi-storied stand composed of a diversity of species similar to that found before the start of operations. The residual overstory canopy shall be composed of at least 25% of the existing overstory conifers.*"

2. **Explain Proposed Practice:** Sawmill Reservoir, a privately owned Class I reservoir held for domestic water supply purposes and commercial pay-for-fishing purposes, is located adjacent to the THP area. There are two Class I tributaries to the reservoir, West Martis Creek, and an unnamed watercourse. West Martis Creek contains a wet meadow system that is being captured by young growth Lodgepole Pine. A wet area immediately to the west of the wet meadow is also being dominated by the Lodgepole Pine regeneration. This THP proposes to utilize the wet meadow/wet area restoration silvicultural system to significantly reduce the amount of Lodgepole Pine present within the 14.5acre wet meadow and wet area. Within this restoration unit, Lodgepole Pine overstory and understory would be largely eliminated, thereby reducing the overstory and understory canopy to less than 50%, within the WLPZ, and reducing the overstory canopy to less than 25% of the existing overstory conifers within the WLPZ. In the eastern portion of the unit, adjacent to the road and landing, select overstory conifers consisting of dominant and codominant Red fir and White fir will remain as wildlife inclusions, thereby contributing non-Lodgepole conifer overstory.

Equipment utilized for this entry will consist of low-impact harvester and forwarder to reduce ground disturbance to a feasible minimum given the size and abundance of conifer material to be removed. Equipment will not cross West Martis Creek, or enter the meadow from the east side. Conifers to be removed from the southern and eastern portions of the restoration unit will be directionally fell and placed within upland areas between the meadow and road, whereby the material can then be forwarded upon the existing road system to the landing. Vegetation removed west of West Martis Creek and the unnamed tributary will require utilization of two existing dry ford crossings on the unnamed Class I tributary. Conifers to be removed from the western portion of the meadow system can be directionally fell towards the unnamed tributary, though is not tall enough to breach said watercourse. This vegetation can then be accessed by the harvester at the two crossing locations, whereupon it will be placed uphill (to the west) of the unnamed tributary for processing and transport to the nearest landing.

3. **Explain How Proposed Practice Differs From Standard Practice:** The proposed practice differs from the standard practice by reducing conifer overstory and understory to levels of less than 50% within the WLPZ, and reducing the residual overstory canopy to less than 25% of the existing overstory conifers.

4. **Explain and Justify How The Protection Provided Is Equal To The Standard Rule And Provides For The Protection of the Beneficial Uses of Water:** Significant reduction of Lodgepole Pine conifer cover is required to restore the West Martis Creek meadow system and adjacent wet area to the historical analog. This conifer reduction will significantly reduce conifer water demand and use within the sensitive area. This action will increase the potential for the meadow and wet area to store water, and enhance the area's sediment filtering properties. The beneficial uses of water will be enhanced by reduced erosion potential, increased ground water storage, enhanced flow attenuation, and helping to keep the tributaries hydrologically connected to the meadow and wet area. The aforementioned enhancements would not be possible without significant Lodgepole Pine reduction in the subject area.

In-Lieu Practice #2: Use of Existing Tractor Road within Wet Area to Access Dry Ford Crossings of Class I Watercourse

1. **Standard Rule:** 14 CCR 936.3 (c), General Limitations Near Watercourses, Lakes, Marshes, Meadows, and Other Wet Areas," *the timber operator shall not construct or use tractor roads in Class I, II, III, or IV watercourses, in the WLPZ, marshes, wet meadows, and other wet areas unless explained and justified in the Plan by the RPF, and approved the Director, except as follows: (1) At prepared tractor road crossings described in 934.8(b), (2) Crossings of Class III watercourses that are dry at the time of use, (3) At new and existing tractor road crossings approved as part of the Fish and Game Code process."*

2. **Explain Proposed Practice:** A low impact harvester and forwarder will enter a seasonally wet area to harvest conifers and to access a Class I watercourse at two existing crossing locations. The area will be accessed during dry stable conditions only. An existing tractor road that connects the wet area to a landing to the west will be the designated forwarder trail and will be used by the forwarder to access the Class I watercourse crossings. The Class I crossings are identified as #28 and 29 on the THP Map and Map Point Table. Utilization of these crossings will allow for removal of conifer material from the west half of the West Martis Creek meadow system without having to cross the West Martis Creek channel. The unnamed tributary to be crossed as part of this proposed practice is classified as a Class I watercourse due strictly to the presence of fish within the Sawmill Reservoir. The subject watercourse consists of a mild channel generally less than 4" deep and 24" wide as based off of the high water mark. The watercourse is composed of native sand substrate and lacks and pools, riffles, or meanders. Isolated clumps of salix willow between the meadow and wet area margin form the only riparian vegetation present. The crossings identified are located away from the willow clumps and will not require removal of any riparian vegetation as part of their use.

The proposed in-lieu tractor roads and crossings would be utilized during the non-winter period (April 1 – October 14 annually) under the following cumulative conditions:

(a) Timber operations shall not occur within the wet area and in-lieu tractor roads under saturated soil conditions*.

(b) The Class I crossings shall be dry at the time of use.

(c) Crossings #28 and 29 will not be used if the National Weather Service forecasts a 30% or greater chance of precipitation within 24 hours. If during operations, the National Weather Service forecasts a 30% or greater chance of precipitation within 24 hours, the in-lieu crossings will be removed according to specifications of (c) below. Operations utilizing the in-lieu crossings will be planned to occur when the 24-hour forecast calls for conditions conducive to dry conditions.

(d) As per 14CCR 943.9(p), when watercourse crossings, other drainage structures, and associated fills are removed the following standards shall apply:

(a) Fills shall be excavated to form a channel that is as close as feasible to the natural watercourse grade and orientation, and that is wider than the natural channel as observed upstream and downstream of the logging road watercourse crossing to be removed.

(b)The excavated material and any resulting cut bank shall be no greater than 65 percent (1.5:1, horizontal to vertical) from the outside edge of the constructed channel to prevent slumping, to minimize soil erosion and sediment transport, and to prevent significant sediment discharge. Exposed soil located between the watercourse crossing and the nearest adjacent drainage facility or hydrologic divide, whichever is closer, including cut banks and excavated material, shall be stabilized by seeding, mulching, rock armoring, or other suitable treatment to prevent soil erosion and significant sediment discharge. This stabilization shall occur by mulching with logging slash, tree chips, or native pine needles to a depth of 2" covering 90% of the disturbed area.

3. **Explain How Proposed Practice Differs From Standard Practice:** The proposed practice deviates from the standard rule by allowing equipment to enter a seasonally wet area and to cross the Class I watercourse at two existing crossing locations.

4. **Explain and Justify How The Protection Provided Is Equal To The Standard Rule And Provides For The Protection of the Beneficial Uses of Water:**
The aforementioned enhancements to the West Martis Creek meadow system and wet area would not be possible without significant Lodgepole Pine reduction in the subject area. This conifer reduction will require the use of equipment due to the size and abundance of material removed. Tractor Crossings #28 and 29 are located on Class I watercourse. The following protection measures are equal to the standard rule and provide for the beneficial uses of water:

(a) Timber operations within the wet area shall only occur during dry stable conditions*.
(b) No tractor crossing may be used if water is present in the channel.
(c) No tractor crossing may be used if the National Weather Service calls for a 30% or greater chance of precipitation.
(d) Should the National Weather Service call for a 30% or greater chance of precipitation during operations, use of the subject tractor crossing(s) shall cease and each tractor crossing in use shall be removed according to the standards of 14CCR 943.9(p)(see page 28).
(e) No riparian vegetation will be removed other than conifer trees designated for harvest by the RPF or vegetation required to accommodate crossing use and improve safety.
(f) Immediately following operation, areas of exposed soil greater than 800 sq. ft. within the WLPZ shall be stabilized by mulching with logging slash, tree chips, or straw hay to a depth of 2" covering 90% of the disturbed area.

*Saturated soil conditions means that soil and /or surface material pore spaces are filled with water to such extent that runoff is likely to occur. Indicators of saturated soil conditions include, but are not limited to: 1) areas of ponded water, 2) pumping of fines from the soil or road surface material during timber operations, 3) loss of bearing strength resulting in the deflection of soil or road surfaces under a load, such as the creation of wheel ruts, 4) spinning or churning of wheels or tracks that produce a wet slurry, or 5) inadequate traction without blading wet soil or surfacing materials.

Haul Road Within The Class I WLPZ:

One portion of an existing, seasonal, private road exists within the Class I WLPZ of Sawmill Reservoir as shown on the THP map. This section of haul road within the WLPZ contains two road points as identified on the THP map and described in the Map Point Table. A short section of the stated road is "troughed", and road points 37 and 38 are intended to effectively drain the road and prevent possible sediment transport towards the reservoir.

The following protection measures will be adhered to when utilizing the section of haul road within the Class I WLPZ:

(a) No side-casting or blading of soil and/or woody debris off the road surface in the direction of the WLPZ.
(b) Equipment use will be confined to the road.
(c) No equipment maintenance or refueling shall be conducted within 100 feet of any watercourse channel.
(d) Following each year's operations and prior to the winter period, any disturbed earthen material outside of the normal road running surface shall be drained and slash packed or straw mulched to a depth of 2" covering 90% of the affected area to control erosion.
(e) Outside of the winter period, if rock is deemed necessary to create a stable operating surface, the following standards shall apply:
1.) 2"+ angular rock will be applied to a minimum depth of 2".

28. a. [X]Yes [ ] No Are there any landowners within 1000 feet downstream of the THP boundary whose ownership adjoins or includes a class I, II, or IV watercourse(s) which receives surface drainage from the proposed timber operations? If yes, the requirements of 1032.10 apply. Proof of notice by letter and newspaper should be included in THP Section V. If No, "28 b." need not be answered.

Downstream landowners were notified by letter on January 15, 2016. Domestic water notification was publishsed in the Sierra Sun January 13, 2016 for a one-time circulation. Proof of these notifications and recipients is provided in THP Section V.

b. [ ]Yes [X] No Is an exemption requested of the notification requirements of 1032.10? If yes, the required explanation and justification for the exemption should be provided in THP Section III. Specify if requesting an exemption from the letter, the newspaper notice or both.

c. [☐]Yes [x] No Was any information received on domestic water supplies that required additional mitigation beyond that required by standard Watercourse and Lake Protection rules? If yes, list site specific measures to be implemented by the LTO.

29. [☐]Yes [x] No Is any part of the THP area within a Sensitive Watershed as designated by the Board of Forestry and Fire Protection? If yes, identify the watershed and list any special rules, operating procedures or mitigation that will be used to protect the resources identified at risk?

HAZARD REDUCTION

30. a. [X]Yes [ ] No Are there roads or improvements which require slash treatment adjacent to them? If yes, specify the type of improvement, treatment distance, and treatment method.

b. [☐]Yes [x] No Are any alternatives to the rules for slash treatment along roads and within 200 feet of structures requested? If yes, RPF must explain and justify how alternative provides equal fire protection. Include a description of the alternative and where it will be utilized below.

The THP area does not contain any public roads, or permanent private roads open for public use where permission to pass is not required.

As per 14 CCR 937.2(c), all woody debris created by timber operations greater than one inch but less than eight inches in diameter within 100 feet of permanently located structures maintained for human habitation shall be removed or piled and burned; all slash created between 100 – 200 feet of permanently located structures maintained for human habitation shall be lopped for fire hazard reduction, removed, chipped, or piled and burned.

31. [x]Yes [☐] No Will piling and burning be used for hazard reduction? See 917, [937,957] et seq., for specific requirements. Note: LTO is responsible for slash disposal. This responsibility cannot be transferred.

937.2 Treatment of Slash to Reduce Fire Hazard

Piles may be created during operations as part of slash treatment activities. As per 14 CCR 937.2(a), Burning of Piles and Concentrations of Slash shall be done as follows:

1) Piles created prior to September 1 shall eb treated not later than April 1 of the year following creation, or within 30 days of climatic access after April 1 of the year following creation.

2) Piles created on or after September 1 shall be treated not later than April 1 of the second year following its creation, or within 30 days following climatic access after Arpil 1 of the second year following its creation.

(3) Piles and concentrations shall be sufficiently free of soil and other noncombustible material for effective burning.

(4) As per 14 CCR 937.6, Notification or Burning, the local representative of the Director shall be notified in advance of the time and place of any burning of logging slash. Any burning shall be done in the manner provided by Law.

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BIOLOGICAL AND CULTURAL RESOURCES

32. **NOTE:** See THP Form Instructions or the CDF Mass Mailing, 07/02/1999, section on "CDF Guidelines for Species Surveys and Mitigations" to complete these questions.

a. [x]Yes [☐] No Are any plant or animal species, including their habitat, which are listed as rare, threatened or endangered under federal or state law, or a sensitive species by the Board, associated with the THP area? If yes, identify the species and the provisions to be taken for the protection of the species.

b. [☐]Yes [x] No Are there any non-listed species which will be significantly impacted by the operation? If yes, identify the species and the provisions to be taken for the protection of the species.

Scoping

A scoping process was conducted to identify species of plants, animals, and habitats that could potentially be impacted by the proposed project. Sources used include the California Department of Fish and Game Natural Diversity Database (CNDDB) (May 2015, Martis Peak 7.5' USGS Quad), California Native Plant Society (CNPS) nine-quad search (Martis Peak 7.5' Quad), and the Selected Rare Plants of Northern California handbook. CNDDB and CNPS reports generated during the scoping process are available upon request. The following federal or state listed rare, threatened, endangered, or sensitive species, or their habitat, is known to be associated with the THP area:

Special-Status Species and Potential for Occurrence			
Common Name (Scientific Name)	**Regulatory Status**	**Habitat**	**Potential of Occurrence**
WILDLIFE			
Northern goshawk (Accipiter gentilis)	CSSC, BOFS	Nesting: Mature conifer forests Foraging: forests	Moderate
Bald Eagle (Haliaeetus leucocephalus)	C-E, C-FP, BOFS	Lake margins, river courses	Nest site present at Sawmill Reservoir; Limited operating period shall apply to the Meadow and Wet Area Restoration unit. No timber operations shall occur within said unit during the critical period of January 15th-August 15th annually.
Sierra Nevada yellow-legged frog (Rana sierra)	F-E, C-T	Aquatic environments which do not freeze at the bottom during winter or dry up during summer/fall.	Moderate within meadow restoration unit only; Low potential in all other silvicultural units.
Cooper's Hawk (Accipiter cooperi)	CSSC	Nests in coniferous forest, oak woodlands, and other mixed evergreen forests. Forages in a variety of habitats, from open to dense forest.	Moderate
Sharp Shinned Hawk (Accipiter striaus)	CSSC	Nests in coniferous or mixed forests, usually selecting a conifer for the nest tree. Forages in a wide variety of coniferous, mixed, or deciduous woodlands.	Moderate
Willow flycatcher (Empidonax traillii)	C-E	Deciduous thickets especially willow & alder, near perennial water features.	Low; Migratory habitat present in vicinity of harvest units in T16N, R16E, S1, MDBM and T16N, R17E, S8, MSBM, yet the habitat is located over 300 feet away from

			said units. Appurtenant road crosses suitable migratory habitat at crossing #24, and suitable migratory habitat is present within 100 feet of appurtenant road west of crossing #25. A 2006 survey by Wildlife Resource Consultants for this species in the subject area indicated the presence of migratory habitat only.
Great Blue Heron (*Ardea Herodias)*	BOFS	Marshes, swamps, shores, tidal flats. Very adaptable & known to forage in any kind of calm fresh waters or slow-moving rivers. Nests in trees or shrubs near water, sometimes on ground in areas free of predators.	Present seasonally at Sawmill Reservoir (foraging only).
Gray Wolf	F-E, C-E	Habitat generalist, known to use tundra, woodlands, forests, grasslands, and deserts. Historic distribution and abundance of the species is CA is unknown.	Low due to year round human presence within THP vicinity during the spring to fall months annually.
Sierra Nevada Red Fox	C-T	Species is rare in Sierra Nevada, but Sierra Nevada populations may be found in a variety of habitats, including alpine dwarf-shrub, wet meadow, subalpine conifer, lodgepole pine, red fir, aspen, montane chaparral, montane riparian, mixed conifer, and ponderosa pine. Species hunts small and medium-sized mammals, ground squirrels, gophers, mice, marmots, woodrats, pikas, and rabbits. Hunts in meadows, fell-fields, grasslands, wetlands, and other open habitats. It uses dense vegetation and rocky areas for cover and den sites. Den sites include rock outcrops, hollow logs and stumps, and burrows in deep, loose soil. In the Sierra Nevada they prefer forests interspersed with meadows or alpine fell-fields. Mating takes place in late winter (January-March), young born in early spring (March-May).	Moderate
Sierra Nevada Mountain Beaver (Aplodontia rufa)	C- SSC	Dense montane riparian deciduous habitat, and brushy stages of forested habitat near abundant water; requires dense understory vegetation for food and cover, and soft soil for burrowing; burrows are typically near streams and springs.	Low; suitable habitat is protected by Class I and II WLPZ outside of the Restoration Unit; Restoration unit does not present suitable habitat.

PLANTS			
Galena Creek rockcress (Arabis rigidissima var. demote)	1B.2	Upper Montane Coniferous Forest; Aspen stands	Moderate
threetip sagebrush (Artemisia tripartita ssp. tripartita)	2B.3	Upper Montane Coniferous Forest	Moderate
Davy's sedge (Carex davyi)	1B.3	Upper Montane Coniferous Forest; Subalpine Coniferous forest	Moderate
Plumas ivesia (Ivesia sericoleuca)	1B.2	Lower Montane Coniferous forest' vernally wet portions of meadows and alkali flats, vernal pools within sagebrush scrub	Moderate
Starved daisy (Erigeron miser)	1B.3	Upper Montane Coniferous Forest	Moderate
upswept moonwort Botrychium ascendens	2B.3	Lower Montane Coniferous Forest, meadows, seeps	Low potential within the meadow & wet area restoration unit only
Scalloped moonwort (Botrychium ascendens)	2B.2	Upper Montane Coniferous Forest , Lower Montane Coniferous Forest, meadows, seeps, marshes, swamps	Low potential within the meadow & wet area restoration unit only
Common moonwort (Botrychium lunaria)	2B.3	Upper Montane Coniferous Forest , Lower Montane Coniferous Forest, meadows, seeps, marshes, swamps	Low potential within the meadow & wet area restoration unit only
Mignan moonwort (Botrychium manganese)	2B.2	Upper Montane Coniferous Forest , Lower Montane Coniferous Forest, meadows, seeps, marshes, swamps	Low potential within the meadow & wet area restoration unit only
English sundew (Drosera anglica)	2B.3	Meadows, seeps, march, swamps, Upper Montane Coniferous Forest, bogs, fens	Low potential within the meadow & wet area restoration unit only
Oregon fireweed (Epilobium oreganum)	1B.2	Meadows, seeps, march, swamps, Upper Montane Coniferous Forest, bogs, fens	Low potential within the meadow & wet area restoration unit only
Donner Pass buckwheat (Erigonum umbellatun var. torreyanum)	1B.2	Meadows, Seeps, Upper Montane Coniferous Forest	Low potential within the meadow & wet area restoration unit only
Santa Lucia dwarf rush (Juncus luciensis)	1B.2	Great Basin Scrub, Lower Montane Coniferous Forest, Meadows, seeps, vernal pools, chaparral	Low potential within the meadow & wet area restoration unit only
Broad-nerved hump moss (Meesia uliginosa)	2B.2	Great Basin Scrub, Lower Montane Coniferous Forest, Meadows, seeps, vernal pools, chaparral	Low potential within the meadow & wet area restoration unit only
Alder buckthorn (Rhamnus alnifolia)	2B.2	Lower Montane Coniferous Forest, Meadows, seeps, Riparian scrub	Low potential within the meadow & wet area restoration unit only

Marsh skullcap (Scutellaris galericulata)	2B.2	Lower Montane Coniferous Forest, Meadows, seeps, marshes	Low potential within the meadow & wet area restoration unit only
Western goblin (Botrychium montanum)	2B.1	Lower & Upper Montane Coniferous Forest, Meadows, seeps,	Low potential within the meadow & wet area restoration unit only
Nothern Meadow Sedge (Carex praticola)	2B.2	Meadows, seeps	Low potential within the meadow & wet area restoration unit only
Short leaved hulsea (Hulsea brevifolia)	1B	Upper and lower montane forest, primarily in red fir forests	Low potential within the meadow & wet area restoration unit only
Sagebrush bluebells (Mertesia oblongifolia var. oblongifolia)	2B.2	Great Basin Scrub, Lower Montane Coniferous Forest, Meadows, seeps, subalpine coniferous forest	Low potential within the meadow & wet area restoration unit only
Hiroshi's flapwort (Nardia hiroshii)	2B.3	Meadows, seeps, damp soil with granitic bedrock	Low potential within the meadow & wet area restoration unit only
Stebbiin's phacelia (Phacelia stebbinsii)	1B.2	Cismontane woodlands, meadows, seeps	Low potential within the meadow & wet area restoration unit only

Key: C- SSC = California Department Fish and Wildlife Species of Special Concern
FC = Federal Candidate for listing as threatened or endangered under Endangered Species Act
C-C – California Candidate for Listing
C-T = California Threatened
C-FP = California Fully Protected
F-E = Federal Endangered
List 1A: Plants Presumed Extinct in California
List 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere
List 2: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

PROTECTION MEASURES:

Sierra Nevada Red Fox:

1) During timber operations, if a Sierra Nevada Red Fox is observed, the RPF shall notify the CA DFW of the detection.

2) During timber operations, if a Sierra Nevada Red Fox den, or female with young is observed, operations shall cease within 0.25 miles and the DFW will be immediately contacted.

3) Observations, detections, and take shall be reported to Cal Fire and the DFW, and shall include a contact name, the date, and location of the observation, detection or take, and details regarding the animal(s) observed. This information is to be reported to CA Dept of Fish and Wildlife, Attn: Sierra Nevada Red Fox and Pacific Fisher Observations, 1812 Ninth Street, Sacramento, CA. 95811 or email to fisherdata@DFW.ca.gov.

Sierra Nevada Yellow-Legged Frog:

1) WLPZ zone widths pursuant to 14 CCR 936.5 shall be used as buffer to protect the watercourse which may contain suitable habitat for this species. The general limitations near watercourses in accordance with 14 CCR 936.3 shall apply.
2) Prior to commencement of timber operations within the meadow and wet area restoration unit, the RPF shall visually survey for presence of SNYLF. In the event of positive detection of the SNYLF, timber operations shall not commence until the RPF has consulted with the California Department of Fish and Wildlife regarding mitigation measures. The results of this consultation and any associated mitigation measures shall become a minor amendment to this THP.

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PROTECTION MEASURES, con't:

Gray Wolves:

1) During timber operations, if any sightings of wolves and/or detection of den/rendezvous sites occur, CA DFW will be contacted for consultation.

2) During timber operations, if a gray wolf, den, or female with young is observed, operations shall cease within 0.25 miles and CA DFW will be contacted for consultation.

3) The results of any consultation and any associated protection measures shall be amended into the Plan.

Northern Goshawk:

1) If during the life of the THP, any visual detection during the critical period or evidence of nesting by any listed species id discovered, tree felling and yarding operations on the plan within ¼ mile of the detection will cease, Cal Fire and DFW shall be notified immediately. Protection measures resulting from the agency consultation will be provided as a minor amendment to the THP.

2)Should an active Goshawk nest be identified during timber operations, a buffer zone shall be established around any/all active nest trees. In consultation with DFW, the RPF or supervised designee shall flag the location of the boundaries of the buffer zone. Consultation with DFW shall be required pursuant to 14 CCR 898.

3) The active nest buffer zone shall be a minimum of five acres in size. When explained and justified in writing, the Director may increase the size of the buffer zone to a maximum of 20 acres when necessary to protect nesting birds.

4) Designated nest trees, screening trees, perch trees, and replacement trees shall be left standing and unharmed. Only commercial thinning, sanitation-salvage, and selection regeneration methods are permitted within the buffer zone.

5) For Northern Goshawk, the critical period is March 15th until August 15th annually. During this period, not timber operations are permitted. Exceptions may be approved by the Director after consultation with the Department of Fish and Game to allow hauling on existing roads that normally receive use within the buffer zone during the critical period.

Bald Eagle:

1)The buffer zone shall consist of a 10-acre buffer around the identified nest site as shown on the THP Map. Silvicultural boundaries have been designed to avoid this buffer zone.

2)The RPF or RPF designee will flag the southern forested portion of the buffer zone (adjacent to the silvicultural unit boundary) prior to operations with solid orange and solid white flagging (the east and northern portions of the buffer are lake water and levee, respectfully, and entirely outside of the silvicultural unit).

3) No timber operations shall occur within the Bald Eagle buffer zone during the critical period of January 15th to August 15th annually, or four weeks after fledgling, as determined by the Director. During this period, no timber operations are allowed within the buffer zone. Exceptions may be approved by the Director after consultation with the Department of Fish and Game to allow hauling on existing roads that normally receive use within the buffer zone during the critical period.

PROTECTION MEASURES, con't:

Non-Listed Raptors:

Should any nesting non-listed raptor be discovered during the course of operations within the THP area the following protection measures will apply:

1) The nest tree, replacement trees, perch tree, and screening trees shall be protected.

2) Timber operations within 500' of the nest tree shall be stopped and CDFW contacted to initiate a consultation. The RPF has the option to maintain the 500' buffer until:

A) the young are capable of sustained flight and can take prey independently, or

B) the nest has failed after June 1st as determined by a qualified wildlife biologist. The buffer may be reduced if a topographical feature exists which provides a visual or auditory screen from operations.

C) Should operations outside the buffer cause the nesting raptor to vocalize, get up from a brooding position, or fly off the nest, operations shall be moved back away from the nest far enough to stop this agitated behavior by the raptor.

D) The RPF will advise the Department of Fish and Game prior to the end of the year in which the occupied nest was discovered of:

a) the raptor species encountered.

b) the size of any set back buffer employed.

Maternal Roost Sites for Bats:

If a maternal roost site for bats is found within the project area, the roost site and screening trees shall not be felled until after two consecutive visits, occurring after August 31st annually, have not detected bats. A buffer will be established around the maternal roost site. The size of the buffer will be determined by the RPF in consultation with the DFW. Timber will be directionally fell away from the site and operations shall be conducted so as to minimize disturbance to the roost site by felling and equipment operations.

939.2 General Protection of Nest Sites

During timber marking, layout and other pre-harvest activities, nest sites shall be protected as per 14CCR 939.2. The following procedures shall occur to protect sensitive species:

1) Nest trees shall not be designated for harvest and identified as wildlife trees with a W/L painted on them within all treatment units.

2) As per 939.2(d), when an occupied nest site of a listed bird species is discovered during timber operations, the timber operator shall protect the nest tree, screening trees, perch trees, and replacement trees, and shall apply the provisions of (b) and (c) above and shall immediately notify CDFW and Cal Fire. A minor amendment to the THP shall be filed reflecting the additional protection as is agreed between the RPF, LTP, and the Director after consultation with the California Department of Fish and Wildlife (CDFW).

Floristic Resource Protection Measures:

1) If any listed plant species is located during active timber operations, the RPF will establish a 50-foot Equipment Exclusion Zone around the identified population(s). No timber operations are to occur within the 50-foot buffer. The identified area(s) will be excluded from operations until a site-specific consultation with the California DFG can be performed. Operations may occur/continue in areas that are not expected to contain suitable habitat.

2) If a listed plant species is located within the THP boundary, the location and protection measures shall be amended into the THP.

BIOLOGICAL AND CULTURAL RESOURCES, con't:

33. [x]Yes [☐] No Are there any snags which must be felled for fire protection or safety reasons? If yes, describe which snags are going to be felled and why.

Snags not actively being utilized as a nest tree may be felled in the following locations:

1) Within 100' of main ridge tops that are suitable for fire suppression.
2) For hazard reduction within 100' of all public roads, permanent roads, seasonal roads and landings
3) As per state and federal safety laws.
4) Within 100 feet of structures maintained for human habitation.
5) Insect and disease control. Trees to be harvested under THP Item #33(5) shall meet the criteria described in 14 CCR 895.1 for Dead, Diseased, or Danger trees.

34. [☐]Yes [x] No Are any Late Succession Forest Stands proposed for harvest? If yes, describe the measures to be implemented by the LTO that will avoid long-term significant adverse effects on fish, wildlife and listed species known to be primarily associated with the late succession forest.

35. [☐]Yes [x] No Are any other provisions for wildlife protection required by the rules? If yes, describe.

36. a. [x]Yes [☐] No Has an archaeological survey been made of the THP area?
b. [x]Yes [☐] No Has a current archaeological records check been conducted for the THP area?
c. [X]Yes [☐] No Are there any archaeological or historical sites located in the THP area? Specific site locations and protection measures shall be included in the Confidential Archaeological Addendum, which should be located in Section VI of the THP. Note, this is not available for general public review.

37. [☐]Yes [x] No Has any inventory or growth and yield information designated "trade secret" been submitted in a separate confidential envelope in Section VI of this THP?

38. Describe any special instructions or constraints that are not listed elsewhere in Section II.

A.) If during operations archaeological sites are located, operations will cease and the RPF or CDF notified so protection measures can be developed to protect the resource.

B.) Mechanized felling equipment utilizing hot saws shall not operate between the hours of 1:00 p.m. and 8:00 p.m. on days designated as "Red Flag Fire Watch" by the National Weather Service. The National Weather Service Forecast shall be consulted each evening for the next day's forecast.

C.) For fire suppression reasons, the feller-buncher operator shall visually observe the area where operations have occurred once every 15 minutes. A designated watchman shall observe the entire area that operations occurred for a minimum of two hours after shutdown.

D.) Prior to operations, the haul route shall be posted at the following locations nearest the intersection where logs trucks enter either of the stated permanent public roads below:
1) Highlands View Drive at intersection of the 700 and 900 roads.
2) Northstar Drive near Northstar Village.

Signage shall occur approximately 500' either side of each intersection with standard 36"x36" traffic safety signs warning motorists of log truck traffic and timber felling operations.

38. con't:

E.) Within 15 days before, and not later than the day of the start up of timber operations, the LTO shall notify Cal Fire, as listed below, of the commencement of operations:

Nevada-Yuba-Placer Unit (NYPU)
Forest Practice Office Technician
13760 Lincoln Way
Auburn, CA. 95603
(530) 823-4904

(F) MEADOW AND WET AREA RESTORATION PROTECTION MEASURES:

1. See THP map for location of the meadow and wet area restoration areas.

2. General Guidelines for Harvesting Operations:
   a. Timber operations shall take place from August 16th – October 15th annually when the ground in sufficiently dry and rutting is not likely to occur (ground is no longer saturated). Winter operations are not allowed.
   b. During dry soil conditions, low impact equipment including a standard harvester and forwarder equipped with pneumatic tires shall be permitted to accomplish the restoration effort.
   c. Any debris that falls into the channel as a result of timber operations shall be removed the same day as the deposition.

3. Meadow Restoration Flagging Scheme:
   a. Meadow &Wet Area Restoration unit will be delineated with flo green flagging.
   b. Fluorescent pink flagging on any tree at DBH, or clump of trees, indicates a wildlife inclusion or other tree desired for retention. No harvesting will be allowed of tree or tree clumps identified by fluorescent pink flagging.
   c. Solid blue flagging delineates the Class I and Class II watercourse protection zone. All trees scheduled for harvest will be directionally fell and endlined from this zone.
   d. Crossing of the Class I watercourse will only be allowed at the designated crossings, which have been identified with fluorescent orange flagging. Class I Crossings will only be utilized when the channel is dry at the crossing location.

(G) Flagging Color Identification Table

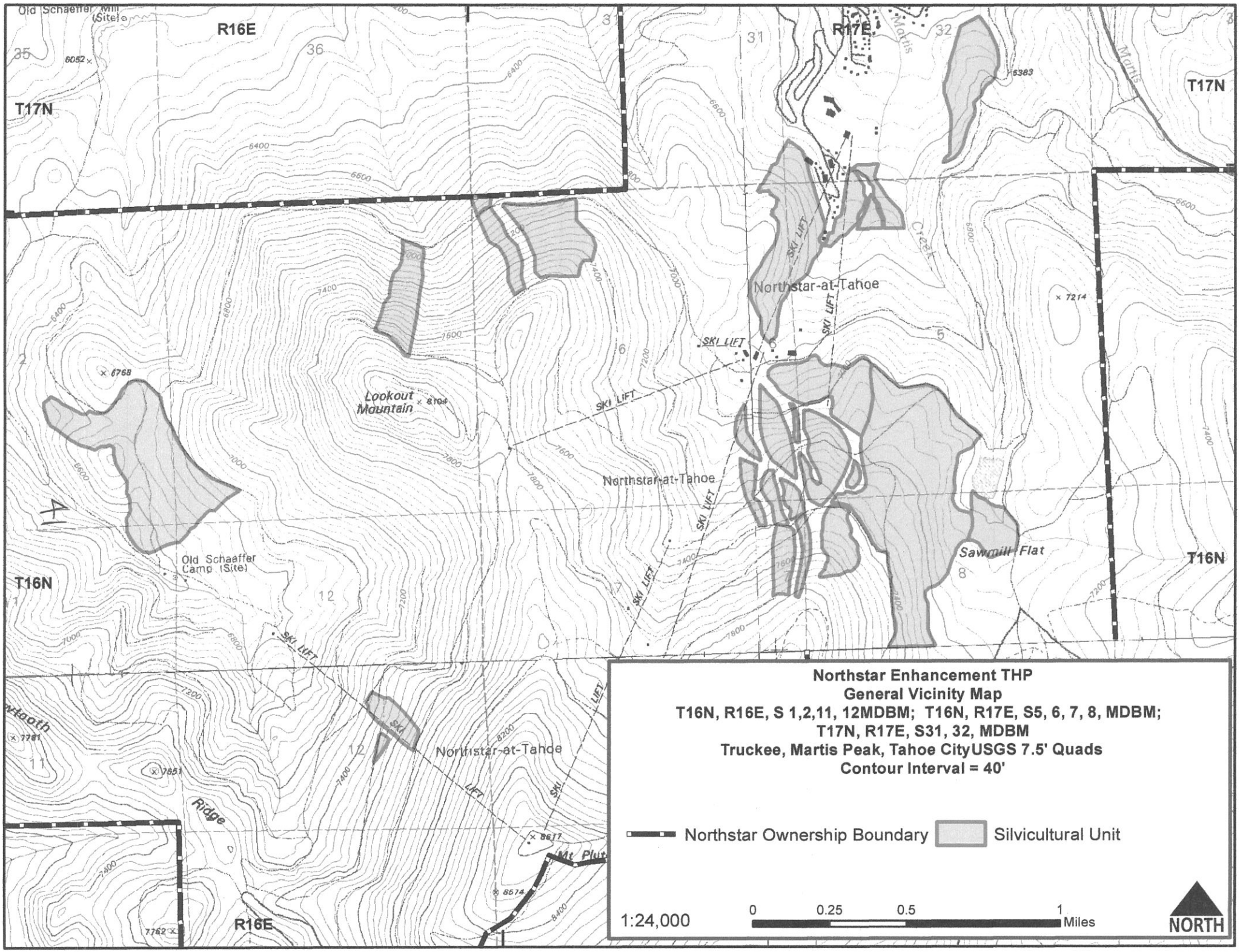
Flagging Color	Identification
Red	Commercial Thinning Unit Boundary
Pink&Black Stripe	Sanitation/Salvage Unit Boundary
Flo Green	Wet Meadow/Wet Area Restoration Boundary
Solid Blue	Class I /II Equipment Exclusion Zone
Blue&White Stripe	Class III Equipment Limitation Zone
Flo Orange	Class I Tractor Crossings (In-Lieu Crossings)
Flo Pink	Wildlife Inclusion – NO HARVEST
Solid Orange&Solid White	Bald Eagle Nest Buffer Zone – NO HARVEST
Red&Black Stripe	Archaeological Site - Equipment Exclusion Zone

DIRECTOR OF FORESTRY AND FIRE PROTECTION

This Timber Harvesting Plan conforms to the rules and regulations of the Board of Forestry and Fire Protection and the Forest Practice Act:

By: _____ August 9, 2016
(Signature) (Date)

John Ramsey Forester III
(Printed Name) (Title)


R16E
R17E
T17N
T16N
Old Schaeffer Mill (Site)
Lookout Mountain
Northstar-at-Tahoe
SKI LIFT
Old Schaeffer Camp (Site)
Sawmill Flat
Martis Creek
Ridge
Mt Pluto
Northstar Enhancement THP
General Vicinity Map
T16N, R16E, S 1,2,11, 12MDBM; T16N, R17E, S5, 6, 7, 8, MDBM;
T17N, R17E, S31, 32, MDBM
Truckee, Martis Peak, Tahoe CityUSGS 7.5' Quads
Contour Interval = 40'
Northstar Ownership Boundary
Silvicultural Unit
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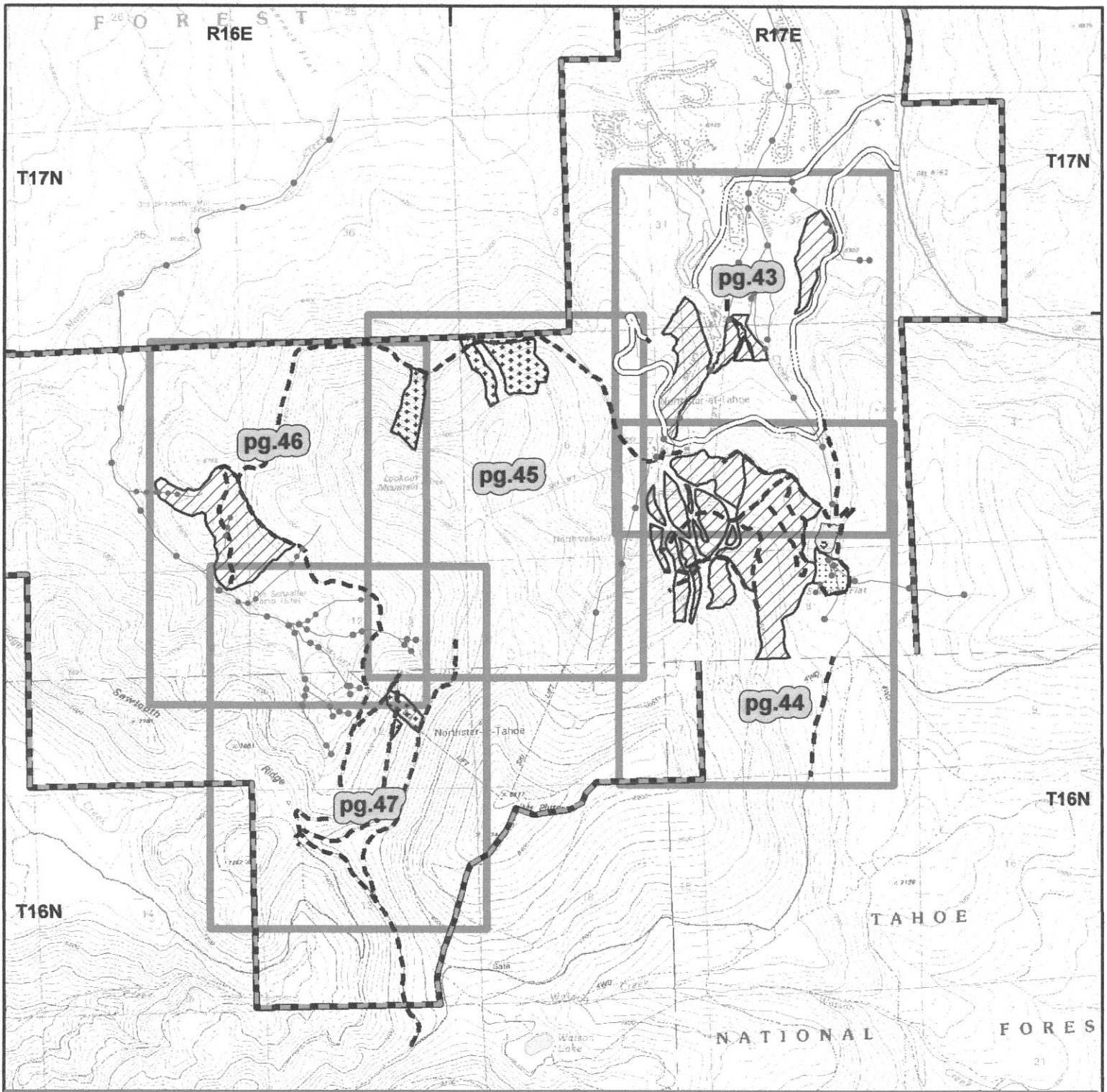
NORTH



Northstar Enhancement THP - THP Map Index
T16N, R16E, S 1,2,11, 12,MDBM; T16N, R17E, S5, 6, 7, 8, MDBM; T17N, R17E, S31, 32, MDBM
Truckee, Martis Peak, Tahoe City USGS 7.5' Quads Contour Interval = 40'

- Map Grid
- Class I
- Class II
- Class III
- Class I Reservoir
- Existing Road, Public, Permanent
- Exising Road, Private, Seasonal
- Commercial Thinning
- Meadow Restoration
- Sanitation Salvage
- Northstar Ownership Boundary

42

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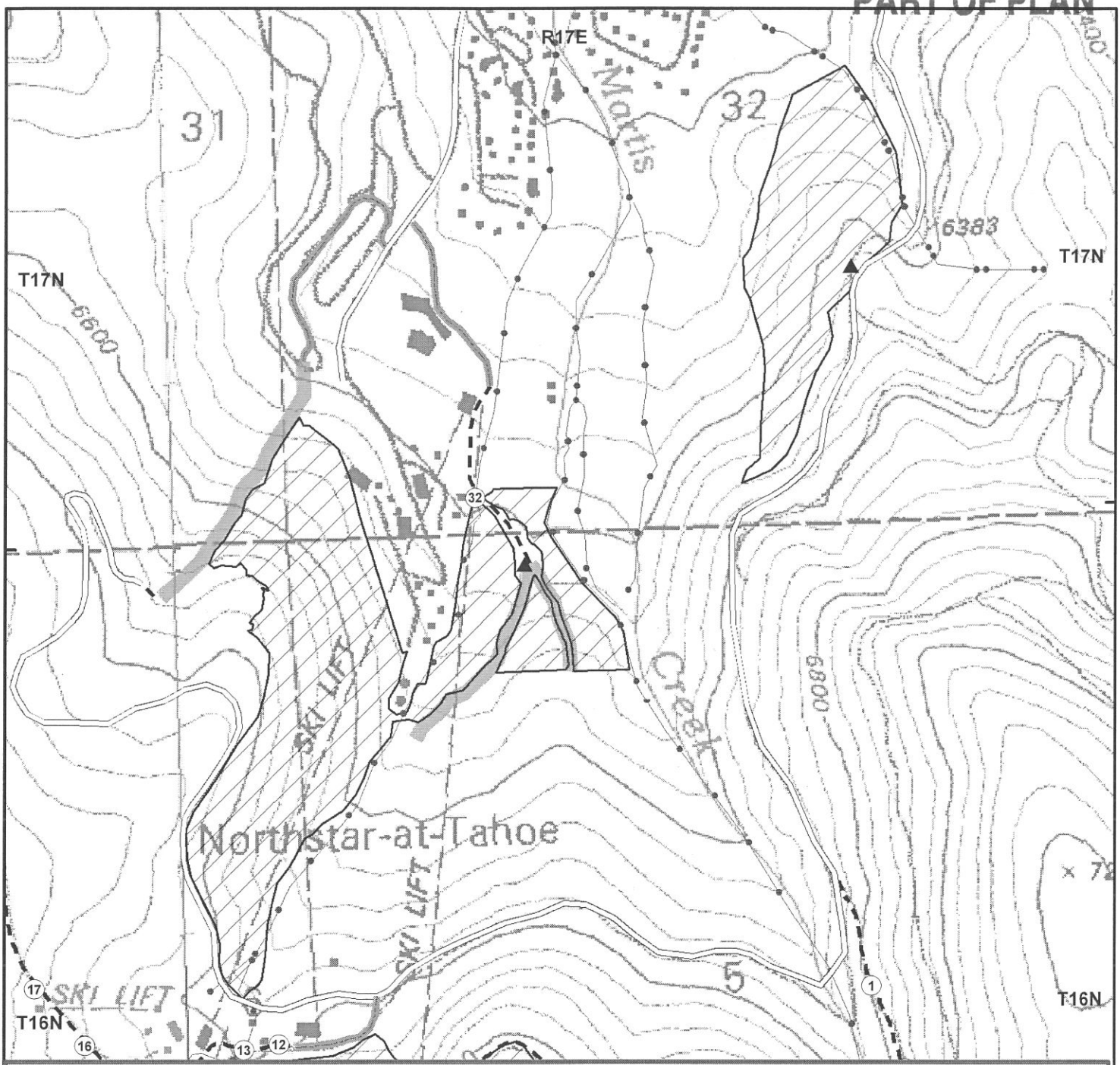
PART OF PLAN



Northstar Enhancement THP

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Truckee, Martis Peak, Tahoe City USGS 7.5' Quads Contour Interval = 40'

- In-Lieu Tractor Road Within Wet Area
- Road Mitigation Point
- Watercourse_Crossing
- Erosion Site
- Existing_Landing
- Class I Reservoir
- Bald Eagle Nest
- BaldEagle Nest 10 Acre Buffer Zone
- Appurtenant Road, Existing, Private, Permanent
- Existing Road, Public, Seasonal
- Existing Road, Public, Permanent
- Appurtenant Road, Exising, Private, Seasonal
- Haul Rd In WLPZ
- Class I
- Class II
- Class III
- Commercial Thinning
- Meadow Restoration
- Sanitation Salvage
- No Harvest Area (Existing Ski Run)
- Northstar Ownership Boundary

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NORTH

North Valley Resource Management
Danielle Breadfield, RPF #2808
P.O. Box 1411
Quincy, CA. 95971

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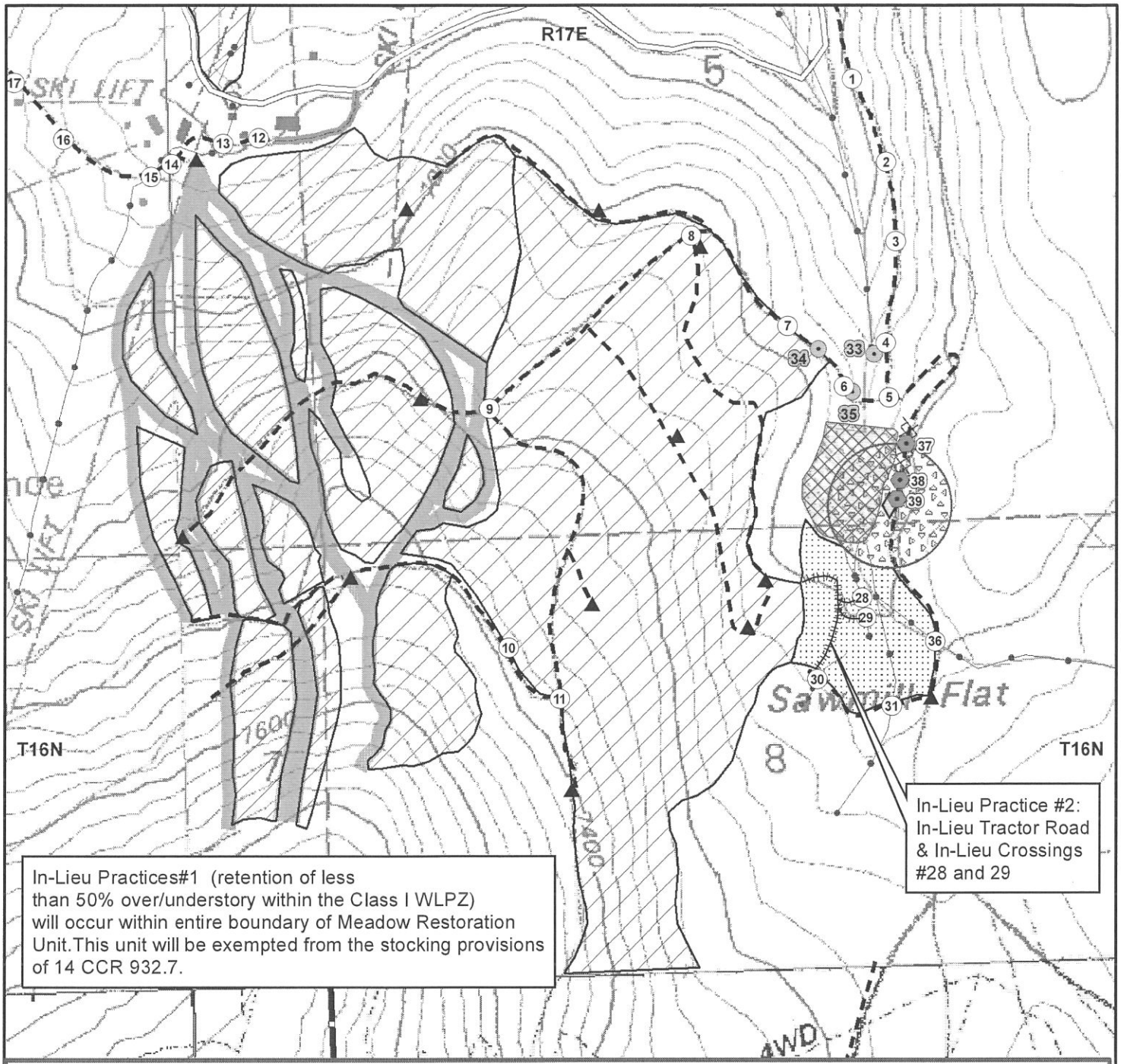

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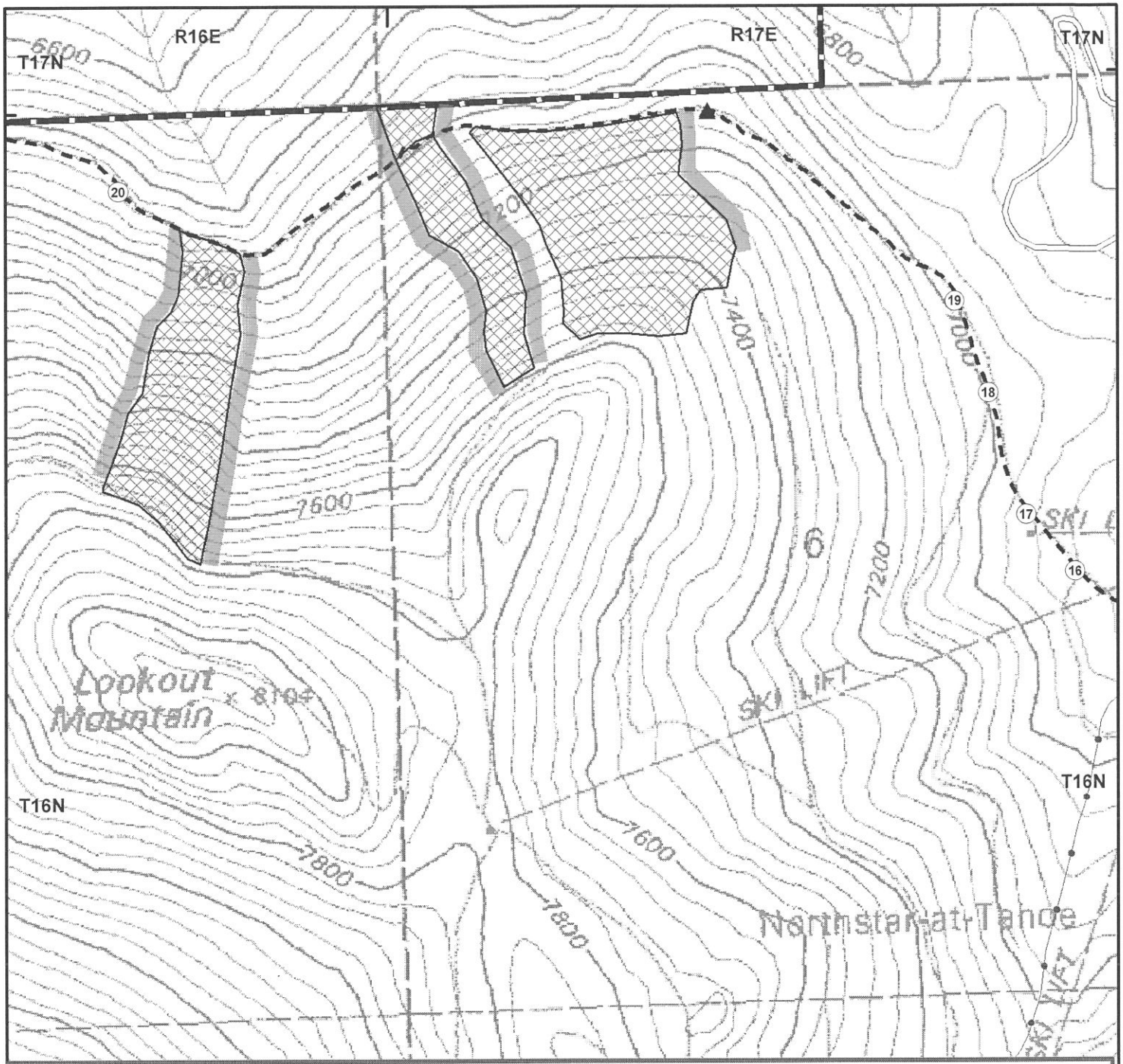

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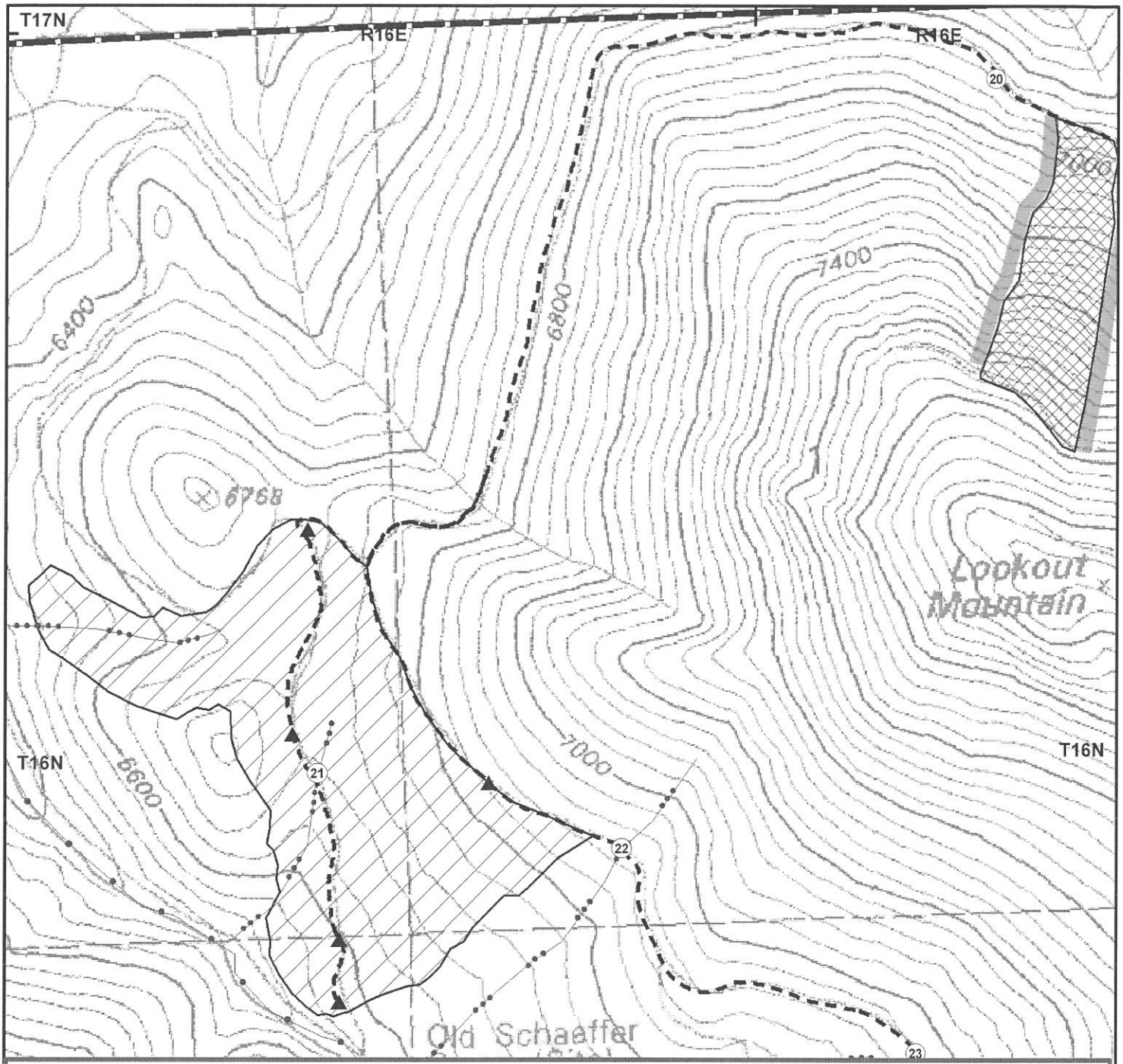

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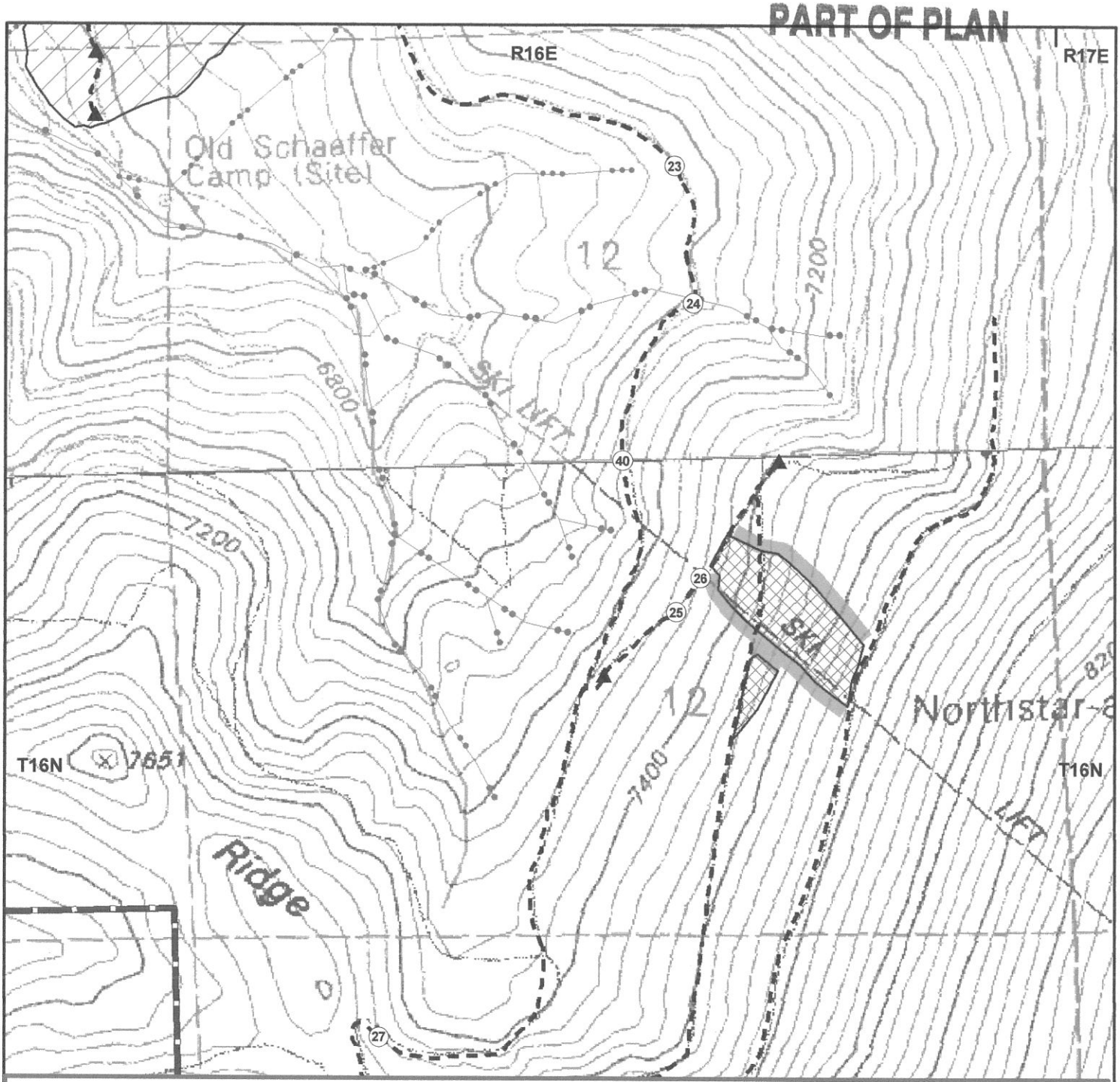

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Northstar Enhancement THP
Considered Alternatives

Purpose and Need for Action

The subject Landowners have expressed interest in harvesting timber from their private timberlands. As per 14 CCR 898, I have reviewed the subject property and considered the following alternatives:

Alternative 1 - No Action

No harvesting of conifers would occur under this alternative. The subject area would not be altered by commercial operations and stand development would be allowed to proceed into the future through natural succession.

Alternative 2 - Silvicultural Treatment meeting the Landowner's Objective

This alternative explored the feasibility of harvesting timber at levels desirable to the landowner taking into account economic, environmental, legal, social and technical factors. Given the significantly urbanized and developed setting of a portion of the project vicinity, and need for enhancement of the forest and related resources on the ownership, utilization of a variety of silvicultural systems will be the most appropriate means to achieve the landowner's objective, with mitigation incorporated herein to protect all associated resources. Specifically, this alternative would include 440 acres of commercial thinning, 72 acres of sanitation salvage, and 14 acres of meadow and wet area restoration to meet Landowner objectives.

Alternative 3 - Deferring Harvest to Alternative Site(s)

This alternative considered deferring timber harvesting from the proposed area of operations. The entire proposed plan area was examined to determine if operations were feasible. During this review, consideration was give to the impacts this operation may have on the general environment and cultural resources. Exclusion of all or portions of the project area was considered.

Alternative 4 - Public Acquisition or Conservation Easement

This option is not feasible due to the long-term management objectives of the landowner as described by the landowner prior to plan preparation. The landowner has no desire to allow public acquisition of the subject ownership.

Decision

Following review of the above listed alternatives, the RPF has selected Alternative 2 to best meet the needs of the landowner while giving consideration to environmental, economic, legal, and social factors. The subject THP has been developed to support the RPF's decision.